The Builder.

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ILLUSTRATIONS.

Oxford: Magdalen Tower, from Bridge.—From a Drawing by Mr. J. Fulleylove ..... *Double-Page Ink-Photo.*
Oxford: Christ Church Cathedral: Interior View of Choir and Lantern, from North Transept ..... *Single-Page Ink-Photo.*
Oxford: Church of St. Mary-the-Virgin: Exterior View, from the North ..... *Single-Page Ink-Photo.*
Oxford: New Examination Schools: Upper Hall and Staircase.—Mr. T. G. Jackson, Architect ..... *Double-Page Ink-Photo.*
Oxford: New Buildings, Corpus Christi College.—Mr. T. G. Jackson, Architect ..... *Single-Page Ink-Photo.*
Oxford: New Examination Schools: Centre facing Quadrangle.—Mr. T. G. Jackson, Architect ..... *Single-Page Ink-Photo.*
Oxford: New Buildings, Magdalen College.—Messrs. Bodley & Garner, Architects ..... *Single-Page Ink-Photo.*
Oxford: The New Indian Institute.—Mr. Basil Champneys, Architect ..... *Single-Page Ink-Photo.*
Oxford: Sketches illustrating Architectural Association Excursion: Merton College, Merton College Chapel, New College Chapel, Christ Church Cathedral, &c. ..... *Double-Page Photo-Litho.*

Blocks in Text.

Exterior of Chapel of South Transept, Christ Church Cathedral, Oxford ..... *Page* 100
Tomb of Prior Sutton, Christ Church Cathedral, Oxford 100
Capitals of Tomb of Prior Sutton, Christ Church Cathedral, Oxford 100
View in the Quadrangle, Magdalen College, Oxford 101
Founder's Tower, Magdalen College, Oxford 101
The Singing School, Magdalen College, Oxford 101
Old Cottages, Farmhouses, &c., in Gloucestershire.—Drawn by Mr. Ralph Nevill, F.S.A.:—
Humphries End Farm-house 106
Cottages in Church-street, Stroud 106
House at Stonehouse 107
Owlpen Manor-House, Gloucestershire 107
An American Plan for the Improvement of Eight-roomed Houses 110
Hot-Water Supply: Diagrams Illustrating paper in "The Student's Column" 111–112

CONTENTS.

Oxford 99
Dr. Fuchstein on the Parthenon Marbles 103
Notes 103
Old Cottages, Gloucestershire 106
Scottish Opinion on the Training and Registration of Plumbers 107
Archæological Societies 107
Illustrations of Oxford 108
Boyle's Patent Ventilators 109
Books: Kelly's "Directory of the Building Trades"; Urquhart's "Electric Light Fitting" (Crosby Lockwood); De Parville's "L'Exposition Universelle" (Rothschild, Paris); Hutton's "Works' Manager's Hand-book of Modern Rules, Tables, and Data for Civil and Mechanical Engineers" (Crosby Lockwood), &c. 109
An American Suggestion for the Improvement of Eight-roomed Houses 110
The Bermondsey Public Library Competition 110
Sub-Contracting in the Building Trade 110
The Ventilation of Churches 111
The Student's Column: Hot Water Supply.—VI. Independent Boilers (*continued*) 111
Obituary 112
General Building News 113
Sanitary and Engineering News 113
Stained Glass and Decoration 114
Foreign and Colonial 114
Miscellaneous 114
Meetings 115
Recent Patents 115
Some Recent Sales of Property 115
Prices Current of Materials 116
Competitions, Contracts, and Public Appointments 117

Oxford.

AMONG architects and archæologists there seems to be quite a run this year on Oxford. The British Archæological Association, as recently reported in our columns,* have made it the centre of their annual meeting; the Architectural Association took a hurried and scrambling day there as one of their vacation visits; and [the same society has fixed upon Oxford and the surrounding neighbourhood as the scene of that more important function, the Annual Excursion, which occupies a week, and which is usually the occasion of much sketching and of a critical examination of the architectural characteristics of the buildings visited, ancient and modern, quite distinct from that mere hunting after antiquarian lore which characterises the archæologist *pur sang;* and which, to say truth, is often joyfully pursued on a very meagre basis of architectural knowledge. The Architectural Association Excursion, which takes place during next week, is therefore the most interesting to us of this series of Oxford visitations, and the one to which we are devoting, this week and next, such special illustration of architectural Oxford as we are able to give.

It was suggested not long since by an enthusiastic member of a certain society of enthusiasts, that the value of the old buildings in Oxford was greater to the world than that of any of the studies which had been carried on in them; an opinion to which, though it be our business and pleasure to exalt architecture, we hardly feel able to subscribe *sans phrase.* Is the Bodleian building, truly, of more value than the Bodleian books? Put in the more moderate and general way in which it is put by Mr. Lang in his charming book on Oxford*, it is nevertheless true that the surroundings of Oxford life are among its strongest and best influences for happiness, and those which are most certainly to be felt. Landor, one of the brilliant but rebellious sons of Oxford, thought that the pleasantest and most profitable hours he could remember at the University were passed with a chosen friend "in the Magdalen-walk by the half-hidden Cherwell." "Hours like these," adds Mr. Lang, "are indeed the pleasantest and most profitable that any of us pass at Oxford. The one duty which that University, by virtue of its very nature, has never neglected, is the assembling of young men together from all over England and giving them three years of liberty of life, of leisure, and of discussion, in scenes which are classical and peaceful." And certainly the buildings play a not unimportant part in this "classical and peaceful" scenery.

To the habitual dweller in Babylon, paying but an occasional passing visit to Oxford, there is a curious dual feeling of contrast between the capital and the fair University city. One is struck equally by the small extent of Oxford, and by its character of distinction within that extent. Coming straight from London, Oxford seems, in comparison with its fame, a mere pocket city, where everything is close to everything else, and it is but a few minutes' stroll from Christ Church on the south confines to Balliol and St. John's on the north; Keble forming a kind of *ultima Thule* a quarter of a mile further out, "at the back of the north wind." But it is in part owing to this small scale of Oxford that the city has that air of distinction which is so remarkable. In a larger town the University buildings would in all probability have been more scattered, and would at all events have been less dominant. As it is, the secular town of Oxford, apart from the University, is of such small account that we seem to be in a town composed entirely of dignified or picturesque buildings with lawns and gardens interposed. Cambridge, which comes of course the nearest to it, does not present anything quite like this, from the more scattered manner in which the colleges are placed; and Cambridge, again, has no High-street in the sense that Oxford has. It is true that people coming to Oxford for the first time, and entering "The High," as nearly every one does in these railway days, from the western end nearest the railway station, will probably experience a little shock of disappointment at the first sight of the street which enjoys such a world-wide fame. It looks narrow, the Mitre Hotel is not as picturesque as we expected, and All Saints, from this point of view at least, is not a very noteworthy specimen of architecture. But by the time the visitor has got down past the bend of the street, and looks back up it, with St. Mary's and All Saints' towers standing out separately in the view, the quiet and reposeful street fronts of University and All Souls forming contrasting horizontal lines, and Hawksmoor's heavy but withal grandiose

* See *Builder* for July, 12, 19, and 26.

* "Oxford: Brief Historical and Descriptive Notes." By Andrew Lang, M.A. With illustrations. London: Seeley & Co.: 1890.

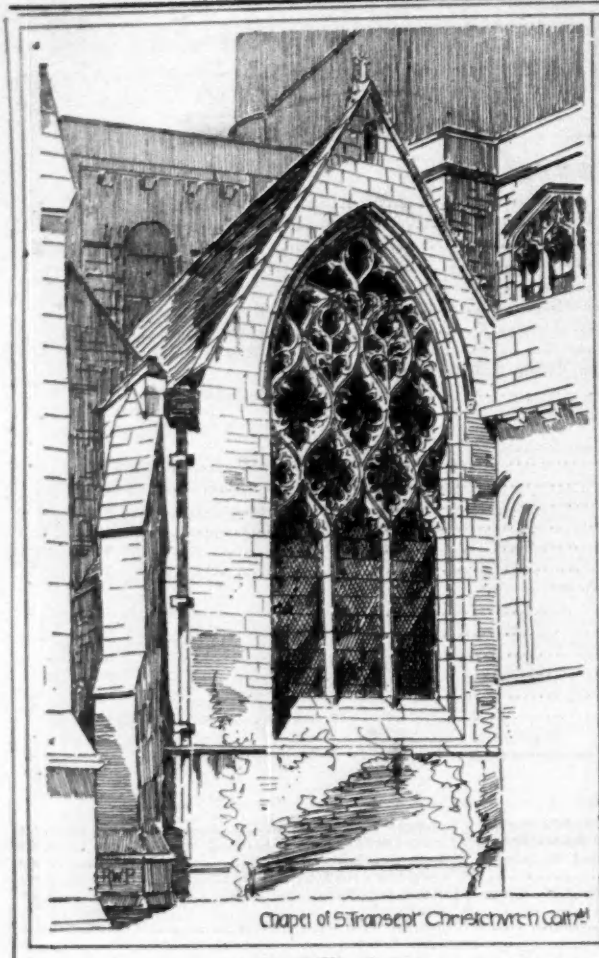

Fig. 1.

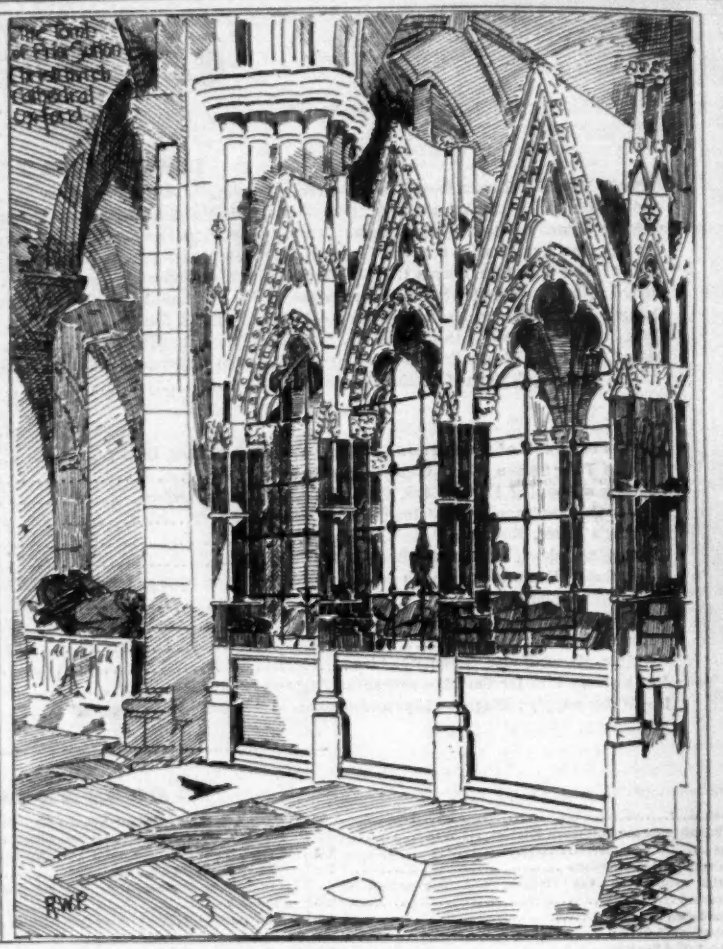

Fig. 2.

Queen's gateway as a foreground object on his right, he will probably admit that Oxford High-street deserves all that has been said about it. But to realise a striking first impression of Oxford every one visiting it for the first time ought to go by a round-about route and drive in over Magdalen-bridge, at the east end of the town, with Magdalen College and Tower on the right, and the High-street and St. Mary's and All Saints' towers opening out as he advances. Mr. Fulleylove's sketch of Magdalen Tower from the other side of the bridge, a reproduction of which is published in this number, shows the first view of Oxford entering from this side, the sketch being taken from the western or further side of the bridge from the town, instead of from the point on the bank exactly opposite the tower east of the bridge, which is the more usual point of view. This view as taken here makes the better composition, though we could have wished to have had the tower in its normal state, without the realistic detail of the apparatus of reparation which appears to have been going on at the time the drawing was made.* The view is nevertheless of special interest as the work of an artist who has gained a somewhat exceptional position as a painter of the picturesque of old buildings. Another of the main features of High-street, the tower and spire of St. Mary's, is also given among our illustrations of this week. The most noticeable points architecturally about St. Mary's tower are the rich effect produced by the double pinnacles at the base of the spire, and the generally pyramidal composition of the whole; the large buttresses with their numerous set-offs, spreading outwards towards the base, giving a remarkable solidity and monumental character to the whole.

Next to the view down (or up) the High-street, perhaps nothing in Oxford is so characteristically Oxford as the small square in which stands the Radcliffe Library flanked by All Souls' screen on the one hand and Brazenose on the other, and backed by the square mass of the Bodleian. The mere view of this group of buildings caught, in passing down the High-street, through the narrow lanes west and east of St. Mary's Church, is sufficient to awaken curiosity and interest, so unique is it, so unlike anything to be seen in any other town in England. The comparatively small scale of Oxford is noticeable here too; for probably there has been no visitor who, knowing Gibbs's famous domed library by engravings only, has not been surprised at finding the actual building smaller than he had expected. In every other respect it is a building that bears out its reputation; somewhat cold and formal perhaps, but essentially dignified. Perhaps it suffers nothing in this respect from its contiguity with the rather nondescript and corrupt architecture of the large quadrangle of All Souls, an inspiration of Hawksmoor's in which he was by no means so happy as in his entrance and screen to Queen's College. In the latter he kept within the lines of a style which he understood and in which he could show his best qualities; in All Souls he made an unhappy attempt at a kind of Gothic outline built up with Classic details; a thing which can be done, no doubt, but Hawksmoor was not the man to do it; his hand was not light enough nor his taste in detail sufficiently refined, and he has succeeded only in producing a kind of nondescript architecture which is striking in a general way and as part of the *coup d'œil* at this point, but which looks less desirable the more it is examined in detail.

If Radcliffe-square furnishes the most characteristic and unusual architectural effect in Oxford, the visitor has only to recross the High-street and penetrate a little distance to the south of it to come upon the most sumptuous and palatial of the University buildings, the great quadrangle of Christ Church, which architecturally is to Oxford what Fountain Court, Trinity, is to Cambridge; architecturally only, for no one college at Oxford holds intellectually the "pride of place" which Trinity holds at Cambridge; if there be any Oxford College which can pretend to intellectual precedence it would probably be Balliol, which architecturally is not of special account except in regard to the space it covers. A quadrangle on such a scale as that

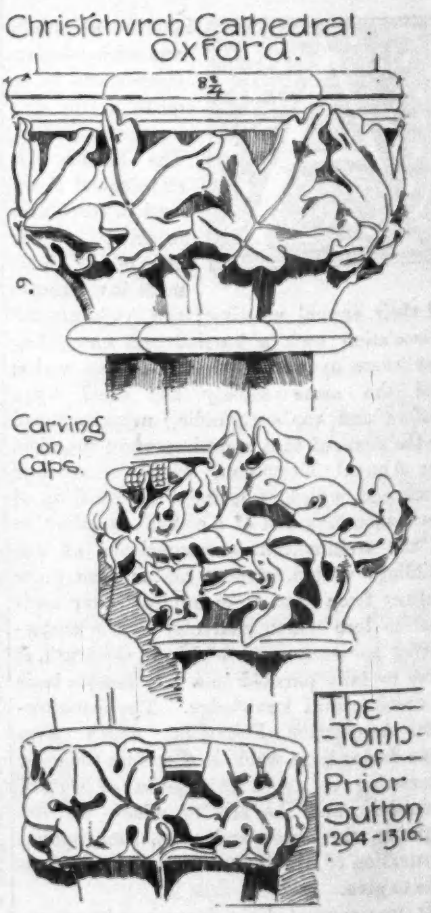

Fig. 3.

of Christ Church must produce a fine effect whatever the surrounding architecture, which in this case is not of the highest interest as regards the quadrangle façades, with

* A drawing of the upper portion of Magdalen tower, without the scaffolding, &c., will be given in our next.

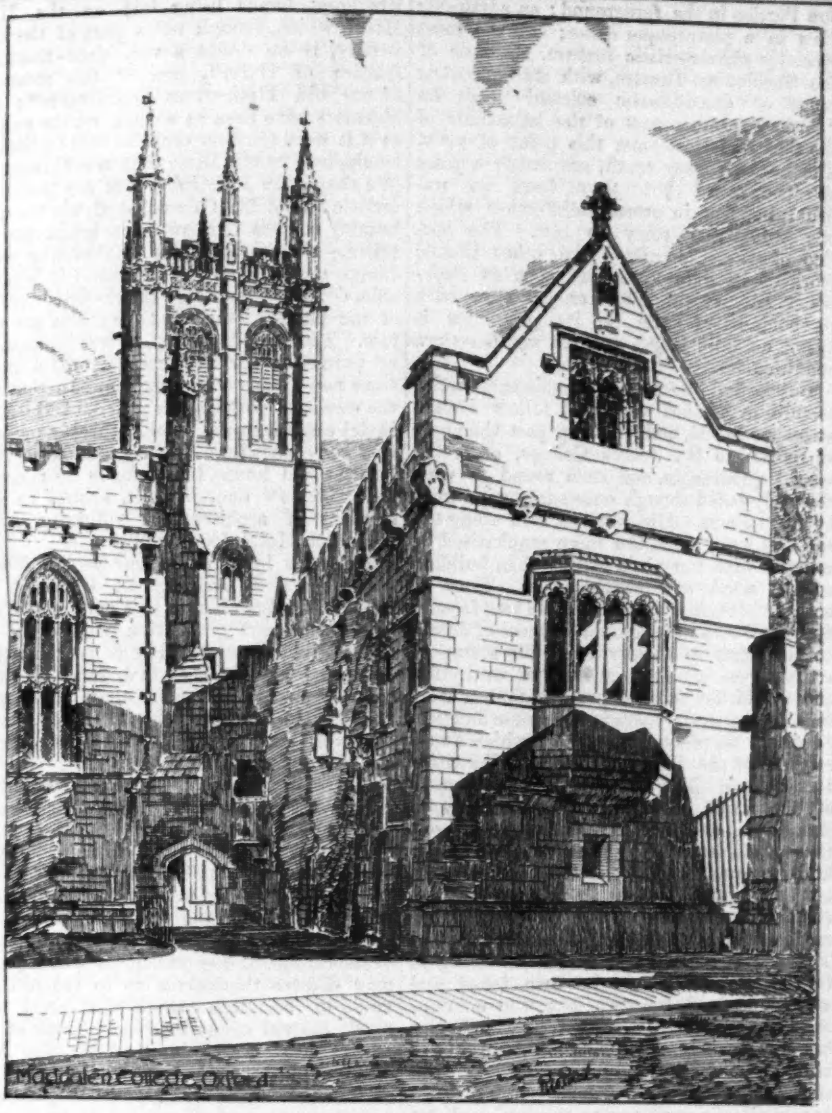

Fig. 4.

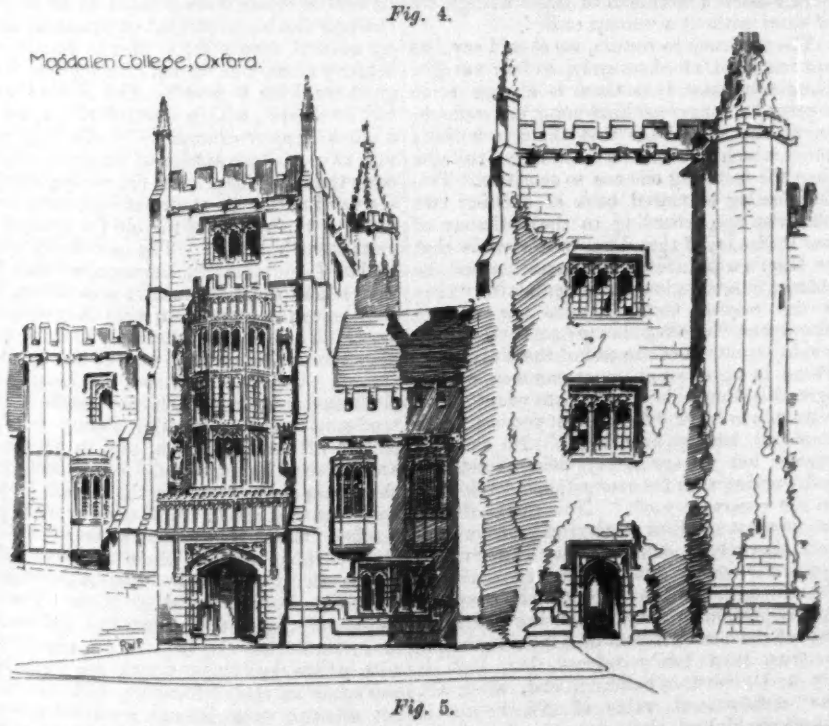

Fig. 5.

the exception of Wren's picturesque though corrupt-looking tower over the main entrance. Like the great court at Trinity, Christ Church has no cloisters, though the bases of the buttresses for the cloister are all *in situ* and show what a sumptuous piece of work was intended. This, however, would hardly have been an entire architectural success in one sense, in that it would have been a projecting cloister, an addition to the main line of building, which has not so fine an effect as a cloister forming the ground story of a building which is continued over it, at all events not in a residential building; in a cathedral the conditions are somewhat different.* But one of the treasures of the ancient architecture of Oxford is found in the Cathedral, now the College Chapel, as adapted and altered for that purpose by Wolsey, the founder of the college, who lived before the days of an S.P.A.B. Society, and, like the gentleman mentioned in that Society's last Report, "altered things as he and his architect thought fit." We give a sketch of a portion of the Cathedral (see lithograph) showing the remarkable contrast between the late Norman work of the substructure and the rich effect of Wolsey's (?) fan-traceried and pendanted roof; also the interesting character of the transitional foliage of the capitals, showing the germ of the forms of Early English foliage while still in their state of stiff young sprouts, retaining (see the lower leaves of the foreground capital) some reminiscence of the classical leaf from which they originated, and before they took to the free curling crisp forms of their mature growth.

In the subjoined cuts, fig. 1 shows the window of the chapel in the south transept, which is similar to the work in the chancel at Dorchester Abbey (a building also included in the week's proceedings of the Architectural Association); and fig. 2 is a sketch of the tomb of Prior Sutton in the Cathedral, a good example of a tomb of that date, with Purbeck shafts and very delicately carved caps, sketches of some of which are given in fig. 3. The tomb stands in one of the bays of the arcade between the north choir aisle and the "Latin Chapel" (so-called because the College prayers in Latin were formerly read there at the commencement of each Term). In the Latin Chapel itself are some good poppy-heads, one of them with the head of Cardinal Wolsey. Two of these are shown in the right-hand corner of the photo-lithograph of various sketches which forms one of the separate plates in this week's issue (see plate).

Fig. 6.

The quadrangle of Peckwater, a portion of Christ's College, though having no relation architecturally to the large quadrangle, may be called in its present state a fine gloomy example of Classic architecture applied to a building of this class. The library is a really powerful work of its class, simply on account of the boldness of its parts and projections; there is nothing little or trivial about it, and perhaps the blackened and decayed state of the stone does not diminish its dignity of effect; but the extent to which this and other Classic work of earlier date in Oxford (notably Inigo Jones's work at St. John's) has decayed is rather serious, and looks as if repair or partial refacing would become a necessity before long, however much one may regret to touch the old work. Certainly Peckwater quadrangle at present is a somewhat gloomy spectacle, stately but rather grim in its decay.

Though Magdalen is inferior to Christ Church in extent, it surpasses the latter in the possession of so fine a tower, and in general picturesqueness, and many critics are disposed to place it first among the architectural attractions of Oxford. We give some further sketches of parts of the Magdalen buildings. Fig. 4 shows a portion of the large quadrangle with the bell-tower in the rear, and the stone pulpit is seen just inside the gate, from which formerly a sermon was preached on St. John Baptist's

* It may be of interest to note here that we gave a view of Christ Church College, from St. Aldates, (from a drawing by Mr. John Fulleylove), in the *Builder* for February 9, 1889.

Day, the open-air delivery of the sermon having, we are told, a reference (somewhat distant, it must be confessed) to the circumstance of St. John the Baptist preaching "in the wilderness." Fig. 5 is a sketch of the "Founder's Tower" with the sumptuous oriel window of the Founder's Chamber, a room which has witnessed the entertainment of not a few guests of note in history, royal personages and others. The doorway below, leading to the cloisters, has some beautiful carved work in the spandrels. Fig. 6 is a sketch of the old Singing School, a most characteristic bit of domestic Gothic architecture, remarkable, however, for its repose and simplicity rather than for more ostentatious qualities. It is seen again in the corner of the ink-photo illustration showing the new buildings of Magdalen. It is this character of repose and absence of ostentation which is for the most part so remarkably exemplified in the old University buildings both of Oxford and Cambridge, and which it seems so difficult for those who are called on to add new buildings to retain. In this particular case it may be said that Messrs. Bodley and Garner have been successful; their new buildings are not out of keeping with their surroundings further than every new building among old ones must unavoidably appear to be; and other similar examples are to be found; but of the modern buildings of Oxford collectively we have a word to say further on.

A near neighbour of Magdalen, Merton College, has also some affinity with it architecturally. The tower, shown in the sketch of the chapel in the lithographed plate, is not dissimilar to that of Magdalen in the treatment of the upper stages, though much shorter in proportion. The College was founded by Walter de Merton in the time of Henry III., and the chapel, of which the fine east window is shown in the sketch, was, like Christ Church Cathedral, an older church metamorphosed for the College Chapel by the founder. The east window and the rest of the choir are, however, Walter de Merton's work; the remainder having been formerly the Parish Church of St. John the Baptist. In the chapel is the brass lectern presented to the college by "Master John Martock," of which a drawing is also given; and we have added on the plate, what will be of interest in this connexion, a drawing of the memorial brass to this same John Martock, which still exists at Banwell in Somersetshire. A window of the library at Merton, given on the same plate, is a noteworthy specimen of that mingling of Classic detail with Gothic feeling which is so frequently met with in the old work at Oxford; the cornice round the window is Classic, but the arrangement of the mullions and the slightly-pointed arches to each compartment, with the battlemented ornament on the upper side of the transom, are distinctly Gothic, though of a very late type.

Among the colleges north of High-street, New College has a special architectural interest in the mere fact that it was founded by William of Wykeham, who doubtless influenced its architectural design more or less. Its Bell-tower, a view of which will appear in our next week's illustrations, is notable for its remarkably massive and plain character, rendering it more like an adjunct to a fortress than to a University building; but this special character, if somewhat out of keeping with its purpose and surroundings, at all events serves to give it a special interest. In connexion with New College we add also (see lithograph plate) a sketch of one of the most curious and interesting of the miserere carvings in the chapel.*

North of that remarkable architectural group, referred to before, of which the Radcliffe is the centre, the east end of Broad-street, with the Sheldonian Theatre and the old Clarendon, is another most characteristic Oxford bit. In the *Builder* for Jan. 5, 1889, was published a view looking westward along Broad-street, with the columns of the Clarendon Portico in the foreground: an admirable view in a picturesque sense; but the most specially characteristic feature, the apse of the Sheldonian Theatre, with its concentric range of quasi-Classic colossal heads on "terms" forming part of the balustrade of the theatre, is lost from this point of view. The heads, to say truth, are rather a piece of "bunkum," but they form an unusual incident in street architecture which one would be sorry to lose. The portico of the Clarendon, like other Classic work of its date in Oxford, such as Peckwater Library, impresses one at once with its boldness of scale (in its parts, for it is not actually large) and its weather-worn condition.

But to find the gem of Renaissance architecture in Oxford we must follow Broad-street westward, and turn up past the angle of Balliol to St. John's College, enter the second quadrangle, and turn round to view the sadly faded though once sumptuous work by Inigo Jones. His work is seen along the east and west sides, the more emphasised by contrast with the plain Elizabethan building on the north and south sides. There is nothing in Oxford to equal these two façades by Inigo Jones in grace and richness of detail, nothing that so clearly bears the stamp of artistic genius. It is a kind of work that one would far more expect to find in Italy than in England; there is a richness and profusion in the decorative detail which seems redolent of the full bloom of the Florentine Renaissance. The decayed state of much of the work, unhappily, is melancholy to look upon, and one is inclined to suggest that at all events the decayed parts of the fluted columns might as well be carefully cut out and refaced, this being more or less mechanical work in which the intrusion of the modern hand would not be so much felt. The decorative work it would be wrong to touch; it must retain its own faded and weather-stained beauty; but the columns seem to have suffered most, and will best bear repairs. If anything were done of this kind, however, it should be under the most stern conservative direction, such as would hardly allow a workman to touch a single bit of stone without a written order!

The tendency to restore, we should say, has not touched Oxford severely, so far; yet Mr. Lang complains that there is always some repair of a dangerous kind going on; remarking at the same time that there is nothing about which the members of other colleges than the restoring one are so sensitive. This dual feeling is traced back as existing two centuries ago, according to the testimony of one Prideaux, of that date, who records that St. Mary's was undergoing restoration, and the old men exceedingly exclaim against it." "That is the way of Oxford," adds her modern biographer, "a college is constantly rebuilding amid the protests of the rest of the University. There is no question more common, or less agreeable, than this; 'What are you doing to your tower?' or 'What are you doing to your hall, library, or chapel?' No one ever knows; but we are always doing something, and working men for ever sit, and drink beer, on the venerable roofs." Now really, if it is so, we must say that all the recent restoration must have been done in a very conservative spirit, for on the old buildings the marks of the cloven-hoof of the restorer are by no means much apparent to the casual visitor. A large part of the street façade of All Saints has, it is true, been lately refaced, but that is not a University building, and, after all, the architectural value of All Saints is not of the highest class, except as regards its part in the *coup d'œil* of High-street, and so far as that goes it is not injured. Mr. Fulleylove's drawing testifies that on the date of September 29, 1887, workmen "sat on the venerable roof" of Magdalen tower,—at all events their apparatus is in evidence; we presume some repairs were done to the pinnacles and battlements; but the consequences are certainly not at the present moment offensively conspicuous to the naked eye, from below at all events. There has been talk recently of irreverent hands being laid on the Mitre Hotel, which, though not a part of the University, is no doubt a very time-honoured feature of Oxford, one of the remnants of the old High-street architecture*; and objectors have been as solemn on the subject as if it were the very ecclesiastical institution symbolised by the Mitre that was threatened. We should be loth indeed to see so characteristic an old front demolished, but we must humbly confess our own conviction that the Mitre,—the existing building that is to say,—cannot much longer be retained: it is venerable, doubtless, but also knock-kneed and out of the perpendicular, and the rooms are very low. The rumour is that it was proposed to be purchased for the erection on its site of some new University erection. In that case the essential portion, the spirit, of the Mitre Hotel establishment would probably put on a new body elsewhere. One would be sorry to lose the old house, but there is no necessity that the new one, if built, should be such a piece of architectural vulgarity as the Randolph Hotel, for example.

And this leads us to our promised word about the new buildings of Oxford. Mr. Lang is lugubrious over this matter also, and thinks the next generation will regard the multitudinous new buildings as "imitative experiments, without style or fancy in structure or decoration, and often more than mediævally uncomfortable." Elsewhere he observes that "the Fellows of a College at any given moment are not necessarily endowed with architectural knowledge and taste. They should think twice, or even thrice, before leaving on Oxford for many centuries the uncomely mark of an unfortunate judgment." And seeing what Oxford is, and what is her charm, it is not to be wondered at that her sons should desire to keep her unchanged. There is unfortunate evidence, too, of the extent to which people may deceive themselves as to the ultimate value of buildings which they erect with much mutual congratulation. Think of the praises that were lavished on the New Museum; how it was hailed as the evidence of a revival of the true Mediæval spirit, how its carven stones were pointed to as showing the true Gothic treatment of ornament based on natural forms, &c. But a quarter of a century since, was it not? And who has a good word for it now? And Keble College and its Chapel, within a stone's throw, are not a much happier example. The College buildings have the advantage of being less pretentious than the Chapel, less fireworky; but they are far inferior in their parti-coloured brickwork to the repose of the old (or some of the new) stone buildings. The new buildings at Balliol (about which, however, no such fuss was made) are not exactly pretentious, but they leave the impression that they would be very well as business chambers in London or Manchester; they are not of the spirit of Oxford. On the other hand, Mr. Lang's vaticinations savour a little too much of that tendency, peculiar to the literary mind, to dislike all new buildings, and to appreciate architecture by its date. We do not know that there are any among the modern Oxford buildings that are in worse taste or more pretentious than Hawksmoor's work at All Souls; it is certain there are some that are much better; but then All Souls is sanctified by the hand of Time. The examples of the New Museum and Keble seem to indicate that the best future chance lies with those buildings which are restrained and sober in their character, and which do not attempt to strike out a marked new departure at variance with the prevalent type of Oxford work. In this respect an impartial criticism must, we think, admit that some of the new buildings of which we give illustrations in this number have fairly met the rather difficult problem. Mr. Jackson's Examination Schools, of which we give a view of a portion of the east side towards the quadrangle, has the merit of combining dignity

* We may note here that sketches of other miserere carvings in New College Chapel were given by us in our number for August 3, 1889.

* A view of part of High-street, showing this hostelry and All Saints tower, from a drawing by Mr. Fulleylove, will appear in our next issue.

with refinement and repose of style: it is of course made up mainly of old architectural materials, so to speak, though there is a certain individuality in the detail. Of course the centre *fronton*, rising above the roof, is an illogical and contrived effect; but if we were to begin to apply that principle of criticism rigidly in Oxford, how many charming bits of old work should we have to pull down? The High-street front of the new schools is more distinctly original; we have not been able on this occasion to give an illustration of it; but we consider that on the whole the best piece of new architecture in Oxford; and that is not mere imitation. The most original portion of the building, the interior arcade of the hall, with its heavy bracketting, is to our thinking the least successful bit; there is too manifest an attempt to do something new and striking; the upper hall and arcade, of which we give a view, is far more to our mind. The same architect's new building at Corpus Christi is so curiously like old Oxford in its architectural inconsistencies that, passing it the other day and forgetting for the moment what it was, we looked up curiously to see if it were an old building that had suffered the process of scraping. This is the effect it was probably intended to produce, and it is not every architect who can do that even when he means it; the experiment is interesting, and has been carried out with great delicacy; still one is tempted to say "something too much of this." The same criticism applies to the nevertheless beautiful range of modern buildings which Mr. Jackson has added to Trinity College, an addition of which, for refinement of design and detail, the College may well be proud; but it is rather too imitative. Mr. Champneys's angle feature to his new Indian Institute, of which we give a view, is a really happy bit of architectural invention; this turret stands at the end of Broad-street, near the north-east angle of the old Clarendon, and from its position is seen from the further end of the street. The architect may be congratulated on having added to so characteristic a portion of Oxford a new architectural feature which, though small, is both picturesque in itself and in harmony with its surroundings.

While, however we consider that the outcry in some quarters against the new buildings in Oxford, or against any new building at all there, has been pushed to an illogical and uncritical extreme, and that some of the recent additions to Oxford architecture merit a great deal of praise, we are quite in sympathy with those who deprecate all changes in Oxford that can be reasonably avoided. Like Venice to Europe, so Oxford to England is a completely unique possession left to us from the past. Let us at least preserve it as long as we can.

DR. PUCHSTEIN ON THE PARTHENON MARBLES.

HOWEVER uncertain much of the history of Greek art might be, one truth we had all thought stood safe and sure, that the Parthenon Marbles, though not indeed all actually sculptured by the hand of Pheidias, were designed by him and executed under his immediate supervision, and hence that for a knowledge of the style of Pheidias these Marbles were our principal and, indeed, only original source. This conviction is as old as the days of Visconti, and dates from the day he visited the Marbles in Burlington House before they were bought by the nation. He writes to Hamilton (November 25, 1814) "En visitant les marbres sculptés que my lord Comte d'Elgin a fait transporter d'Athènes à Londres, le connaisseur est certain d'avoir sous les yeux plusieurs de ces ouvrages précieux qui conçus et dirigés par Pheidias et executés en partie par son ciseau, ont fait pendant plus de sept cents ans l'admiration du monde ancien." Visconti seems to agree with Cicero: *Phidiæ signum simul adspectum et probatum est*. The grounds of his conviction are in the main subjective, and such arguments are hard to disprove. Sanctioned moreover by the tradition of more than half a century, they are peculiarly difficult to combat,—a doubt as to the connexion of Pheidias with the Parthenon Marbles will with many only raise a contemptuous smile.

None the less, Dr. Puchstein comes boldly forward to state, not merely a doubt, but his own conviction of the contrary,—*i.e.*, that the Parthenon Marbles are not merely executed but designed by a sculptor substantially later than Pheidias, and of a style markedly different. He does not state what raised the question in his mind, but it is easy to see, in reading his paper just published in the Jahrbuch of the Prussian Archæological Institute (V. 1890, 2), that the doubt first occurred to him owing to his study of the copy of the Parthenos which was discovered during the Pergamene excavations. Setting aside Visconti's purely subjective argument, it has been usual to base the Pheidian connexion on two passages, in Pausanias and Plutarch respectively. In describing the Parthenon, Pausanias (1, 24, 5) mentions the pediment sculptures and an undoubted work by Pheidias immediately together, without naming the sculptor. This, it is presumed, is because the authorship of both was too well known to need statement. Such an argument, of course, considering the accidental way in which Pausanias names or leaves nameless the artists of the work he describes, is practically *nil*. Plutarch's statement is at first sight more serious. In his life of Perikles (C. 12 tnd 13), in describing the extraordinary artistic activity of the rule of Pheidias, he says, "that although each work had its own architect and artist, and those of the first rank like Kallikrates and Iktinos, Mnesikles, &c., yet Pheidias had the supervision of them all (*πάντα διεῖπε*) and everything was well nigh dependent upon him (*πάντα ἦν σχεδον ἐπ αὐτῷ*). As the friend of Perikles he kept an eye over all the works and the artists (*πάντων ἐπισκοπης ἦν, πᾶσιν ἐπεστάτει τοῖς τεχνίταις*). But he himself erected the gold and ivory statue of the goddess." Now here, if anything is insisted on, it is this, that Plutarch distinguishes between the work Pheidias did himself (*i.e.*, the gold and ivory statue) and the work done by other artists, on which he kept a friendly, supervising eye; hence it may fairly be concluded that so far as literary evidence goes we have no hint whatever as to who *did* design and execute the marbles of the Parthenon, but a pretty clear inference that Pheidias did *not*. Our only source of knowledge, then, is a comparison of the style of work of art known to be by Pheidias with that of the Parthenon marbles. As all the actual works of Pheidias have perished, we are further reduced to an examination of well authenticated copies and of literary statements describing statues and compositions. Further, as the copies of the Olympian Zeus (on coins) are too small to exhibit details of technique, practically we are limited to the copies of the chryselephantine Parthenos and the design on its basis.

Here Dr. Puchstein's argument bifurcates; —he takes first the question, is the treatment of the drapery of the Parthenos,—as seen in copies,—such that it could possibly have been executed by the same hand that did the drapery of the Parthenon marbles; secondly, is the style of *composition*, which we know from accounts of the relief at Olympia representing the Birth of Aphrodite and of the Birth of Pandora, on the basis of the Parthenos, such that it can possibly have been conceived by the same artist who composed,—say the east pediment or the frieze of seated gods? To both these questions Dr. Puchstein returns an unhesitating No.

Respecting the first question,—the drapery of the Parthenos,—Dr. Puchstein's argument can only be fully appreciated in relation to the sections he gives of the drapery of the Varvakeion statuette, of the Akropolis torso, and of the Dresden and Pergamon Athenes. A most careful and detailed analysis of the scheme of folds in these statues shows that all statues which are copies of the Parthenos show analogous schemes, and these schemes are marked by a close and severe *naturalism*. It is a commonplace of criticism to note the *idealism* of the drapery of the Parthenos marbles,—it is "wie im vision gefunden," "supersensuous," and the like: in fact, it leaves on the mind of every spectator the effect of a thing non-natural, supernatural, if we like,—a thing imagined, not actually seen. We cannot predicate of one and the same sculpture a close naturalism and an extreme idealism. It is, Dr. Puchstein maintains, unthinkable that, making all allowance for difference of technique in the round and in relief, the artist who made the simple, severe, almost archaic Parthenos, could have broken loose into the imaginative idealism of the "Gaia and Thalassa": the two are not only not the same, they are not even developed one from the other, they presuppose a complete break,—a contrary impulse.

Much the same is maintained of the compositions known to be designed by Pheidias. In his Birth of Aphrodite we have a central group of three, with pairs of the gods symmetrically balancing each other side against side, and bounded at either end by Helios and Selene. How simply and symmetrically such a composition was conceived in the days of Pheidias, and by him, may be seen in the remains of the Pergamene basis, which is unquestionably a copy of the Birth of Pandora, and on which five gods still remain standing in simple order, side by side. Contrast this with the east pediment composition, where we have an analogous subject—a birth, and the birth scene bounded by Helios and Selene. Instead of a simple scheme of spectator gods side by side we have a composition of infinite complexity. Every conceivable diversity of pose, a balance of elaborate diversity, a design, in fact, wholly, fundamentally different from the old archaic scheme which we know Pheidias preserved, even while he ennobled it.

We have given only a brief *résumé* of the lines of Dr. Puchstein's argument—his present paper is but a first instalment—in the next issue of the *Jahrbuch* he promises a further dissertation, dealing with the more positive evidence as regards date, of the use of certain tools in the Parthenon marbles. Enough has at least been said to show that a problem of the highest importance has been laid before the archæological world.

NOTES.

MR. E. T. HALL'S paper in the last number of the *R. I. B. A. Journal* on the subject of "Sub-contracting in the Building Trade" (apropos of some recent deputations to the Institute), is a very painstaking and clear review of the subject, though not one that is likely to give satisfaction to the members of the deputations referred to. Mr. Hall pretty conclusively shows that all sub-letting is not necessarily attended by the evils which were so eloquently lamented on that occasion. In regard to masons' work, for instance, Mr. Hall says,—

"In this trade I know of two systems of sub-letting; there may be more: (*a*) One is for a contractor to sub-let the stonework—labour and material—to a sub-contractor in London who makes a specialty of stonework, and has space and plant for moving and working stone; (*b*) the other is for the contractor to sub-let to the quarry-owner, who works the stone in the country.

Now, as to the first system, I believe that the men employed by the sub-contractor are identically of the same class as those employed by the chief contractor. Indeed one firm—whose name as large chief contractors has been well known all over the country, I mean Messrs. George Smith & Co.—take a lot of stonework by sub-contract. The fact is, their facilities for moving and working stone are so much greater than all but the largest contractors, that they can do stonework cheaper than the chief contractors under whom they work without attempting to cut down wages."

That is to say, that this is simply a question of employing contractors who, because they

Day, the open-air delivery of the sermon having, we are told, a reference (somewhat distant, it must be confessed) to the circumstance of St. John the Baptist preaching "in the wilderness." Fig. 5 is a sketch of the "Founder's Tower" with the sumptuous oriel window of the Founder's Chamber, a room which has witnessed the entertainment of not a few guests of note in history, royal personages and others. The doorway below, leading to the cloisters, has some beautiful carved work in the spandrels. Fig. 6 is a sketch of the old Singing School, a most characteristic bit of domestic Gothic architecture, remarkable, however, for its repose and simplicity rather than for more ostentatious qualities. It is seen again in the corner of the ink-photo illustration showing the new buildings of Magdalen. It is this character of repose and absence of ostentation which is for the most part so remarkably exemplified in the old University buildings both of Oxford and Cambridge, and which it seems so difficult for those who are called on to add new buildings to retain. In this particular case it may be said that Messrs. Bodley and Garner have been successful; their new buildings are not out of keeping with their surroundings further than every new building among old ones must unavoidably appear to be; and other similar examples are to be found; but of the modern buildings of Oxford collectively we have a word to say further on.

A near neighbour of Magdalen, Merton College, has also some affinity with it architecturally. The tower, shown in the sketch of the chapel in the lithographed plate, is not dissimilar to that of Magdalen in the treatment of the upper stages, though much shorter in proportion. The College was founded by Walter de Merton in the time of Henry III., and the chapel, of which the fine east window is shown in the sketch, was, like Christ Church Cathedral, an older church metamorphosed for the College Chapel by the founder. The east window and the rest of the choir are, however, Walter de Merton's work; the remainder having been formerly the Parish Church of St. John the Baptist. In the chapel is the brass lectern presented to the college by "Master John Martock," of which a drawing is also given; and we have added on the plate, what will be of interest in this connexion, a drawing of the memorial brass to this same John Martock, which still exists at Banwell in Somersetshire. A window of the library at Merton, given on the same plate, is a noteworthy specimen of that mingling of Classic detail with Gothic feeling which is so frequently met with in the old work at Oxford; the cornice round the window is Classic, but the arrangement of the mullions and the slightly-pointed arches to each compartment, with the battlemented ornament on the upper side of the transom, are distinctly Gothic, though of a very late type.

Among the colleges north of High-street, New College has a special architectural interest in the mere fact that it was founded by William of Wykeham, who doubtless influenced its architectural design more or less. Its Bell-tower, a view of which will appear in our next week's illustrations, is notable for its remarkably massive and plain character, rendering it more like an adjunct to a fortress than to a University building; but this special character, if somewhat out of keeping with its purpose and surroundings, at all events serves to give it a special interest. In connexion with New College we add also (see lithograph plate) a sketch of one of the most curious and interesting of the miserere carvings in the chapel.*

North of that remarkable architectural group, referred to before, of which the Radcliffe is the centre, the east end of Broad-street, with the Sheldonian Theatre and the old Clarendon, is another most characteristic Oxford bit. In the *Builder* for Jan. 5, 1889, was published a view looking westward along Broad-street, with the columns of the Clarendon Portico in the foreground: an admirable view in a picturesque sense; but the most specially characteristic feature, the apse of the Sheldonian Theatre, with its concentric range of quasi-Classic colossal heads on "terms" forming part of the balustrade of the theatre, is lost from this point of view. The heads, to say truth, are rather a piece of "bunkum," but they form an unusual incident in street architecture which one would be sorry to lose. The portico of the Clarendon, like other Classic work of its date in Oxford, such as Peckwater Library, impresses one at once with its boldness of scale (in its parts, for it is not actually large) and its weather-worn condition.

But to find the gem of Renaissance architecture in Oxford we must follow Broad-street westward, and turn up past the angle of Balliol to St. John's College, enter the second quadrangle, and turn round to view the sadly faded though once sumptuous work by Inigo Jones. His work is seen along the east and west sides, the more emphasised by contrast with the plain Elizabethan building on the north and south sides. There is nothing in Oxford to equal these two façades by Inigo Jones in grace and richness of detail, nothing that so clearly bears the stamp of artistic genius. It is a kind of work that one would far more expect to find in Italy than in England; there is a richness and profusion in the decorative detail which seems redolent of the full bloom of the Florentine Renaissance. The decayed state of much of the work, unhappily, is melancholy to look upon, and one is inclined to suggest that at all events the decayed parts of the fluted columns might as well be carefully cut out and refaced, this being more or less mechanical work in which the intrusion of the modern hand would not be so much felt. The decorative work it would be wrong to touch; it must retain its own faded and weather-stained beauty; but the columns seem to have suffered most, and will best bear repairs. If anything were done of this kind, however, it should be under the most stern conservative direction, such as would hardly allow a workman to touch a single bit of stone without a written order!

The tendency to restore, we should say, has not touched Oxford severely, so far; yet Mr. Lang complains that there is always some repair of a dangerous kind going on; remarking at the same time that there is nothing about which the members of other colleges than the restoring one are so sensitive. This dual feeling is traced back as existing two centuries ago, according to the testimony of one Prideaux, of that date, who records that St. Mary's was undergoing restoration, and the old men exceedingly exclaim against it." "That is the way of Oxford," adds her modern biographer, "a college is constantly rebuilding amid the protests of the rest of the University. There is no question more common, or less agreeable, than this; 'What are you doing to your tower?' or 'What are you doing to your hall, library, or chapel?' No one ever knows; but we are always doing something, and working men for ever sit, and drink beer, on the venerable roofs." Now really, if it is so, we must say that all the recent restoration must have been done in a very conservative spirit, for on the old buildings the marks of the cloven-hoof of the restorer are by no means much apparent to the casual visitor. A large part of the street façade of All Saints has, it is true, been lately refaced, but that is not a University building, and, after all, the architectural value of All Saints is not of the highest class, except as regards its part in the *coup d'œil* of High-street, and so far as that goes it is not injured. Mr. Fulleylove's drawing testifies that on the date of September 29, 1887, workmen "sat on the venerable roof" of Magdalen tower,—at all events their apparatus is in evidence; we presume some repairs were done to the pinnacles and battlements; but the consequences are certainly not at the present moment offensively conspicuous to the naked eye, from below at all events. There has been talk recently of irreverent hands being laid on the Mitre Hotel, which, though not a part of the University, is no doubt a very time-honoured feature of Oxford, one of the remnants of the old High-street architecture*; and objectors have been as solemn on the subject as if it were the very ecclesiastical institution symbolised by the Mitre that was threatened. We should be loth indeed to see so characteristic an old front demolished, but we must humbly confess our own conviction that the Mitre,—the existing building that is to say,—cannot much longer be retained: it is venerable, doubtless, but also knock-kneed and out of the perpendicular, and the rooms are very low. The rumour is that it was proposed to be purchased for the erection on its site of some new University erection. In that case the essential portion, the spirit, of the Mitre Hotel establishment would probably put on a new body elsewhere. One would be sorry to lose the old house, but there is no necessity that the new one, if built, should be such a piece of architectural vulgarity as the Randolph Hotel, for example.

And this leads us to our promised word about the new buildings of Oxford. Mr. Lang is lugubrious over this matter also, and thinks the next generation will regard the multitudinous new buildings as "imitative experiments, without style or fancy in structure or decoration, and often more than mediævally uncomfortable." Elsewhere he observes that "the Fellows of a College at any given moment are not necessarily endowed with architectural knowledge and taste. They should think twice, or even thrice, before leaving on Oxford for many centuries the uncomely mark of an unfortunate judgment." And seeing what Oxford is, and what is her charm, it is not to be wondered at that her sons should desire to keep her unchanged. There is unfortunate evidence, too, of the extent to which people may deceive themselves as to the ultimate value of buildings which they erect with much mutual congratulation. Think of the praises that were lavished on the New Museum; how it was hailed as the evidence of a revival of the true Mediæval spirit, how its carven stones were pointed to as showing the true Gothic treatment of ornament based on natural forms, &c. But a quarter of a century since, was it not? And who has a good word for it now? And Keble College and its Chapel, within a stone's throw, are not a much happier example. The College buildings have the advantage of being less pretentious than the Chapel, less fireworky; but they are far inferior in their parti-coloured brickwork to the repose of the old (or some of the new) stone buildings. The new buildings at Balliol (about which, however, no such fuss was made) are not exactly pretentious, but they leave the impression that they would be very well as business chambers in London or Manchester; they are not of the spirit of Oxford. On the other hand, Mr. Lang's vaticinations savour a little too much of that tendency, peculiar to the literary mind, to dislike all new buildings, and to appreciate architecture by its date. We do not know that there are any among the modern Oxford buildings that are in worse taste or more pretentious than Hawksmoor's work at All Souls; it is certain there are some that are much better; but then All Souls is sanctified by the hand of Time. The examples of the New Museum and Keble seem to indicate that the best future chance lies with those buildings which are restrained and sober in their character, and which do not attempt to strike out a marked new departure at variance with the prevalent type of Oxford work. In this respect an impartial criticism must, we think, admit that some of the new buildings of which we give illustrations in this number have fairly met the rather difficult problem. Mr. Jackson's Examination Schools, of which we give a view of a portion of the east side towards the quadrangle, has the merit of combining dignity

* We may note here that sketches of other miserere carvings in New College Chapel were given by us in our number for August 2, 1890.

* A view of part of High-street, showing this hostelry and All Saints tower, from a drawing by Mr. Fulleylove, will appear in our next issue.

with refinement and repose of style: it is of course made up mainly of old architectural materials, so to speak, though there is a certain individuality in the detail. Of course the centre *fronton*, rising above the roof, is an illogical and contrived effect; but if we were to begin to apply that principle of criticism rigidly in Oxford, how many charming bits of old work should we have to pull down? The High-street front of the new schools is more distinctly original; we have not been able on this occasion to give an illustration of it; but we consider that on the whole the best piece of new architecture in Oxford; and that is not mere imitation. The most original portion of the building, the interior arcade of the hall, with its heavy bracketting, is to our thinking the least successful bit; there is too manifest an attempt to do something new and striking; the upper hall and arcade, of which we give a view, is far more to our mind. The same architect's new building at Corpus Christi is so curiously like old Oxford in its architectural inconsistencies that, passing it the other day and forgetting for the moment what it was, we looked up curiously to see if it were an old building that had suffered the process of scraping. This is the effect it was probably intended to produce, and it is not every architect who can do that even when he means it; the experiment is interesting, and has been carried out with great delicacy; still one is tempted to say "something too much of this." The same criticism applies to the nevertheless beautiful range of modern buildings which Mr. Jackson has added to Trinity College, an addition of which, for refinement of design and detail, the College may well be proud; but it is rather too imitative. Mr. Champneys's angle feature to his new Indian Institute, of which we give a view, is a really happy bit of architectural invention; this turret stands at the end of Broad-street, near the north-east angle of the old Clarendon, and from its position is seen from the further end of the street. The architect may be congratulated on having added to so characteristic a portion of Oxford a new architectural feature which, though small, is both picturesque in itself and in harmony with its surroundings.

While, however we consider that the outcry in some quarters against the new buildings in Oxford, or against any new building at all there, has been pushed to an illogical and uncritical extreme, and that some of the recent additions to Oxford architecture merit a great deal of praise, we are quite in sympathy with those who deprecate all changes in Oxford that can be reasonably avoided. Like Venice to Europe, so Oxford to England is a completely unique possession left to us from the past. Let us at least preserve it as long as we can.

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"In this trade I know of two systems of sub-letting; there may be more: (*a*) One is for a contractor to sub-let the stonework—labour and material—to a sub-contractor in London who makes a specialty of stonework, and has space and plant for moving and working stone; (*b*) the other is for the contractor to sub-let to the quarry-owner, who works the stone in the country.

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That is to say, that this is simply a question of employing contractors who, because they

do only one kind of work, have all the plant and labour for it ready to hand, and can save time and money in carrying it out. The matter, he admits, is rather different when the sub-contractor is merely the working mason; a skilled workman, but not possessing the facilities of the great firms referred to. As to the second system, that of quarry-working, Mr. Hall's reply is that "quarry-worked" stone is *not* worked at the quarry, but in masons' yards in its neighbourhood, and also as near to a railway station as possible. He adds,—

"Mr. Weighill says 'quarry-worked' means sub-contracting by 'cheap labour.' I have made inquiries of one of the largest firms of quarry-owners in England, who employ from 1,200 to 1,500 men, and am assured by them that all the stone prepared in their eight depôts is worked by hand by masons paid the highest regular rate of wages in the district. Most of their men belong to the trade union.

Mr. Weighill's observations as to 'cheap labour' and the owners' statement to me,—although at first sight they appear contradictory,—are, it will be seen, quite consistent one with the other, as, of course, the rate of wages in the country is less than in London: its relation to rent and cost of living, however, being probably identical. We cannot, of course, nor would Mr. Weighill, condemn as an inferior craftsman a mason who happens to live in the country; and we cannot accept as reasonable the alternative logical inferences from the argument, either that the country qualified mason should be paid the same as the London mason,—which would be very unjust to the London mason, who has to pay so much more for everything,—or that all stone to be used in London should be worked in London, in order to give more work to the London mason at the expense of his country fellow-workman.

As architects, we can condemn only the inferior craftsman and his workmanship. I believe all the stone for the Spanish-place Church was worked in the country by the quarry-owners. Is it inferior to work done in London by our masons?"

These and other points in Mr. Hall's paper are well worth the consideration of those who see such a bugbear in the mere fact of subletting. Whether Mr. Hall is equally successful in his reply to Mr. Robins's denunciation of competition is another question. He says that if a theatre is destroyed, hundreds of poor people are thrown out of employ; it is legitimate to try and get that place of employment rebuilt as soon as possible, and so with every other place of employment. Yes; if we are to regard architecture as a purely business matter of furnishing a building up to time. We presume Mr. Hall does regard it in that light; so do a good many other people. As we have before said, there is nothing immoral in the theory; only, high-class architecture cannot be had on that system; and some of us still think that high-class architecture is something worth having.

IT appears that our prediction that the "Removal of Gates" Bill would not be allowed to go without something in the shape of a compensation clause has been justified to a certain extent. After two somewhat lengthened discussions, the Earl of Wemyss's proviso was carried on Tuesday by a majority of 56 to 18; it runs thus:—

"Provided that if any lands shall be taken or injuriously affected by anything to be done under or by virtue of this Act without the consent of the owner thereof, compensation shall be made for the same by the Council in the manner provided by the Lands Clauses Consolidation Act, 1845, and the Acts amending the same, the provisions of which Acts, so far as relates to lands taken otherwise than by agreement and to compensation for lands injuriously affected, shall be deemed for that purpose to be incorporated with this Act."

The Earl of Wemyss expressed himself very plainly in regard to the Bill as it originally stood, pointing out that by the American constitution contracts were absolutely protected from interference by the Legislature, whereas "we had no written constitution or supreme Court in this country to protect the rights of property. Their Lordships' House was the only check on wild legislation which did away with rights of property." No doubt a certain colour was given to the line taken by the objectors to the clause, from the fact that the Duke of Bedford, the freeholder of the property, did not take any action against the Bill; but even having regard to that fact, the tone adopted by Lord Herschell in opposing the introduction of any compensation clause appears to us perfectly inexplicable, unless there is something more behind it than appears on the surface. It is evident that the Lord Chancellor had a strong feeling on this point, from the decisive rebuke he gave to "the indirect menace" of Lord Herschell's speech, and his remark that "if the thing was right he trusted their Lordships would have the courage to do it." It is impossible to avoid the conviction that this confiscatory proposal was counted on, if carried, as a precedent in future cases of a similar nature.

ONE of the most unsatisfactory of the many strikes which are now agitating the labour world is that of the Tyne shipyard joiners. It affects only a comparatively small body of men, but the circumstances are peculiar and unusual. The dispute is an old-standing one, turning on the apportionment of work between ship carpenters (or shipwrights) and ship joiners. A similar dispute was settled at Hull, after a strike of some weeks, by representatives of the parties to the dispute drawing up a list of each others' work; but the Tynesiders, failing to come to an agreement as to the division of their respective classes of work, submitted their differences to arbitration. An award was made as long ago as the beginning of last April, by Mr. Burt, M.P., which, like most decisions of this nature, failed to commend itself to all concerned. The shipwrights, however, have repeatedly expressed their willingness to accept the award, but the joiners have persistently declined to work up to it, the climax being reached by the latter coming out on strike last week. They ask for a joint Conciliatory Committee to go into the whole question again, but the shipwrights naturally fail to see the utility of this, and it is difficult to see how the strikers can expect any faith to be placed in them after their repudiation of Mr. Burt's award. When questions are referred to arbitration in this way it is almost impossible for both sides to obtain all they want, but it is fortunately very seldom that the losing party doggedly refuse to make the best of it. This is what the Tyneside joiners appear to be doing, and as Mr. Burt has been a leading referee in disputes of this nature in the North, a severe blow would be dealt at the principle of arbitration should the example of the strikers be followed by others. It should be added that their contention is that the award was against the weight of evidence, and that the strike is the unavoidable consequence of their being unable to appeal against it in any other way.

WE recently published some correspondence on the exorbitant charges made by landlords for dilapidations. Last week a case was tried at the Sheriff's Court, London, again illustrating the unreasonable way in which dilapidations are estimated. The Dowager Marchioness of Downshire let Benfield Park, Berks, at a rental of 530*l.* a year: at the end of four years the tenancy was concluded. The first estimate for dilapidations was 2,000*l.*, but this was reduced, and the amount claimed was 1,090*l.* The jury, according to the report before us, awarded only 290*l.*! And this, though the tenant did not defend the case. Such figures as these speak for themselves. In such a case as this it is obviously those who are engaged professionally, and not the landlord, or rather landlady, who are to be blamed, since, of course, the Marchioness of Downshire could know nothing of the cost of putting the premises into tenantable repair. We cannot too often state that professional men injure their profession by estimates of damages in cases of dilapidations, obstruction of lights, and compulsory taking of land or buildings which are proved to be unreasonably high in the result.

SINCE the opening of the Forth Bridge there has been a congestion of traffic at the Waverley-station, and during the present month the utmost endeavours of the railway officials have failed in starting the through trains in proper time. It is evident that something must be done to obviate this state of matters, and it has been suggested that a loop-line should be formed by utilising the valley of the Water of Leith, which might be covered over from where it is crossed by the railway, about two miles to the west of the city, onwards to Leith Docks and from thence to the Portobello branch. The covering over of the stream would doubtless be an expensive process, but not more so than what the Caledonian Railway proposed to do in driving a tunnel along the whole length of Princes-street, Waterloo-place, and the Calton Hill. The covering over of the stream would effect a sanitary improvement, and the railway would afford facilities to the north side of the city which have long been wanted.

THE Committee of the City Corporation, under the Presidency of Sir Guyer Hunter, for inquiring into the charges for and the supply of the metropolitan water companies, has elicited some characteristic replies from the water companies, who have been invited to send official representatives to the Committee. The Southwark and Vauxhall Company said that as the Committee was wholly irresponsible "and apparently formed for supporting the erroneous views held against the Water Companies," they did not deem it expedient to take any part in the proceedings. Most of the other replies, though not all so candid as this, were practically to the same effect. The New River Company gave no reply. Sir Robert Rawlinson, in giving evidence, said he thought it was possible to vastly improve the water supply taken from the Thames, and that it might be taken from the area of the Thames basin without drawing out of the open river at all. That would be better for the water, very likely, but not perhaps any better for the Thames. In the meantime we are glad to see Sir R. Rawlinson express himself so decisively on the impropriety of allowing house-boats on the Thames while it is a source of water supply. No such thing, he pointed out, would be tolerated on the great artificial reservoirs in connexion with Liverpool and other large towns. Of course not; yet as long as the Thames is the main source of our drinking-water, the objection is just the same. Our wish and hope, however, is to see some totally different source of supply established, which will not drain away our river either directly or indirectly. We observe also that Sir Robert recommended the adoption of the meter system. This is the real remedy, both for water waste and for inequitable imposition of rates.

THE "Architectural Association Sketch-Book"* fully keeps up its high character as a collection of architectural measured drawings and sketches. Among the drawings which illustrate rather curious and out-of-the-way subjects is the first one, of the elegant stone chimneypiece from "The Astrologer's Room," Chaumont, by Mr. H. D. Walton, a curious mingling of Late Gothic feeling with a good deal of Renaissance character of detail. Mr. Needham Wilson's pencil drawings of the chapel of the Castle Beaucaire show a remarkably good bit of drawing of vaulting in the interior view; the ribs abut on to a central cylindrical pier without impost, the section lines of the mouldings being defined against the surface of the pier. The title-page, by Mr. W. R. Lethaby, is a rather curious affair, inspired by the style and feeling of the engraved book illustrations of the Renaissance, and shows a courtyard with a well in the middle

* Vol. IX., New Series.

in the water of which the semicircular round-arched arcade which forms the background is partially reflected; a vista is seen through the arches, and a higher circular columned building rises behind, drawn elaborately out of perspective, according to the style of the period. The drawing does not incorporate the title, which is merely printed above; and though it is cleverly done, we should more admire a true decorative design than this bit of archæological drawing. The prize of 5*l.* 5s. for the best design for a title-page to vol. viii. has been awarded to Mr. W. G. B. Lewis; the prize of 3*l.* 3s. for the best set of two transfers from any one member is gained by Mr. Arnold Mitchell, and the prize of 2*l.* 2s. for the best set of three plates to Mr. T. MacLaren. Oakwell Hall is well illustrated in a set of measured drawings by Mr. F. Mitchell. Mr. Maclaren delineates admirably the fine and curious Renaissance carved detail of a pilaster in San Pietro in Casinensis, Perugia. Sutton Place, Guildford, is another old house illustrated by measured drawings by Mr. A. Gladding; and a chromo-lithograph is given of the head of a pastoral staff in the Library of Wells Cathedral, full-size, from a coloured study by Mr. R. W. Paul. Among other drawings may be mentioned Mr. Leslie C. Cornford's careful and delicate measured drawing of the screen in the Presbytery at Winchester; Mr. Horsley's rood screen at Bergamo (reproduced from the drawing now in the Royal Academy); Mr. Hardy's comparative sketches of towers at Bologna, Cremona, and Genoa; Mr. Victor T. Jones's delicate drawings of the South Porch, St. Helens, Bishopsgate; Mr. MacLaren's pencil sketches of Pompeian bronzes; Mr. Lorimer's details of the Board Room at Heriot's Hospital; Mr. Gimson's interior of St. John's, Chester; Mr. Barnsley's mosaic in the Palace Gardens, Athens; Mr. Gimson's Firedog from Haddon Hall; Mr. Edmund Sedding's measured drawings of St. Magnus, London Bridge, with a number of sections of mouldings appended; Mr. Horsley's very fine coloured drawing (chromo-lithograph) of a portion of St. Mark's Baptistery, Venice; Mr. Barnsley's measured drawings of Wells Chapter House; Mr. Begg's South Transept, Melrose Abbey (from the drawing in the Royal Academy); Mr. Lorimer's decorative details from Kellie Castle, curious and unusual examples of rather realistic Renaissance floral ornament; Mr. Gimson's interior of dining-room, South Wraxall Manor House, with its elaborate and fine plaster ceiling; and Mr. Percy K. Allen's measured drawings of the porch of Southwold Church.

WE recently adverted [p. 63, *ante*] to the opening of St. Giles-in-the-Fields Churchyard as an open space, under the Metropolitan Open Spaces Act, 1881. It was stated in the Consistory Court that no human remains will be interfered with, and no tombstones or vaults removed. The site dates from a period remote. According to a plan of *circa* 1560, the precincts of Queen Mathilda's lazar hospital occupied a triangular space, enclosed by a high wall, and bounded westwards by Eldestrate (since Hog-lane, or Crown-street), southwards by Le-lane (since Monmouth-street), and northwards by a wide thoroughfare,—the present High-street, separating it from the Pitaunce Croft, or Sixteen Acre-close of Blemundesburye Manor.* The plan delineates the public gallows at what is now the end of Tottenham Court-road; the detached parish and hospital churches, with St. Michael's chapel within the latter—each having its own altar, but all being under one roof, and with a round two-storied bell-tower surmounted by a cupola at the south-western angle; the hospital proper, since Dudley House, next west of the church (end of Denmark-street); the hospital gate north of the church; the two cottages drawn in the later view by Aggas, east of the church; the way to the Elms (Endell-street); and the Merestade or Marshland, since known as Cock-and-Pye-fields—the modern Seven Dials. The nave, of two aisles with five side-windows and an east window apiece, was, together with the tower, pulled down in 1623, and replaced with one, built of brick, whereof Hatton gives a description. That church again, which Laud had consecrated, was supplanted by Flitcroft's edifice, opened on April 14, 1734. Hatton mentions the monument of one William Stydulfe, who demised a plot of land for enlarging the churchyard southwards. The whole burial-ground was surrounded by a wall, whereof a portion is replaced with a massive iron railing. The so-called "Judgment" or "Resurrection" gate, removed about 1865 to opposite Denmark-street, was originally of yellow and red brick, and stood at the end of the former avenue. Hatton says it was built in 1687 (from W. Leverton's design), at a cost of 185*l.* 14s. 6d. Various accounts are given of its curious carving, but in the rector's annual parochial report for 1865, quoted in "Old and New London," the work is stated to be "carved in oak, of the date of 1658." In this churchyard were buried "trusty" Richard Penderel, of Hobbal Grange, Tong, who with his brothers aided Charles II. in his escape from Worcester fight; Chapman, the poet, and friend of Ben Jonson—his tombstone, against the church's south wall, was set up, as its inscription records, by Inigo Jones; and the headless body of the Jacobite Earl of Derwentwater, since exhumed and re-interred at Thorndon, Lord Petre's seat, near Brentwood, in Essex.

* Hence Bloomsbury: from the dyke which one William Bleomund, *temp.* John, made here through the Ruggemere. Monmouth, latterly Dudley, street, and Crown-street, have been absorbed in Shaftesbury-avenue and Charing Cross-road.

MR. SPEAR'S Report to the Local Government Board upon the recent prevalence of diphtheria and "croup" in the Stalybridge Urban Sanitary District, and upon the general sanitary circumstances of the district, gives the following notes on the sanitary state of the district in regard to drainage:—

"The district is sewered chiefly by pipe-sewers, but partly by brick and stone channels all emptying by many different outlets into the river as it passes through the town. Some years ago,—owing, it is said, to the entire absence of ventilation of the sewers,—two men working in one of them lost their lives; and since then they have been ventilated at various points by open man-holes, while the Authority have likewise favoured the plan,—one that is open to grave objection,—of connecting with the sewers rain-water spouts from the roofs of houses. There are evidently many branch sewers that are still without ventilation, or that are ventilated only by the ineffective and objectionable method last referred to. Water-closets are uncommon (there are only some sixty in the town), but a large proportion of the middensteads are drained into the public sewers; this mistaken and mischievous plan of dealing with sloppy midden-privies having been adopted by the Authority some ten years ago, and for a while actively enforced.

During the last five years direct connexions between the interior of houses and the sewers have been severed in more than one thousand cases, and it was believed that the greater part of this work had been accomplished. Nevertheless, direct connexion by kitchen slop-stone or by cellar gully, sometimes even without the intervention of a trap, was found in thirteen of the houses invaded by diphtheria or "croup" during the recent prevalence, or in nearly 50 per cent. of their number; while in five others untrapped or defective drains existed in such close proximity to the doors and windows as to produce practically the same result as if the drain had been within the house. In most of the above cases, in fact, it was obvious that the houses were habitually invaded by sewer air, and in three cases in which the experiment was tried the draught coming from the drain was sufficiently strong to extinguish a lighted candle applied to the opening."

DR. AIRY'S Report to the Local Government Board on diphtheria and fever in the Grays Sub-district of the Orsett Registration District in 1889, gives an account of the disgraceful manner in which rustics who "made up a party to go hopping" at Cobham were provided for, though this was probably only a normal case:—

"They crossed the Thames to Gravesend, and walked thence to Cobham on September 1. There they were housed, with other parties, fourteen families in all, in a large barn in a farmyard. They say that they had to lie on old dirty straw on which a company of harvesters had lain, some of whom stayed to the hopping, that there was no separation between families or sexes, except what they contrived for themselves by heaping up the straw between them, and that all their meals had to be taken on the straw. There was no privy accommodation; water was obtained from a well in the farmyard."

A second portion of the report deals with the state of the drainage in the Grays Thurrock Urban Sanitary District. The report says:—

"The Board were made acquainted in 1884, by the report of Mr. John Spear, with the want of sewerage in the town of Grays, then under rural administration. This want still remains unsupplied. The two old drains on the east and west sides of High-street (already mentioned) which discharge behind the sluice at the head of the dock, and a newer private drain which serves a number of houses belonging to one owner in the eastern part of the town, and which discharges into a ditch communicating by a sluice with the Thames, are the only provision for the conveyance of sewage out of the town. The general plan is to lead the house drainage to cesspools which are sunk through 10 ft. or 12 ft. of gravel down to the chalk, as described by Mr. Spear on page 3 of his report. Some of the surface drainage is disposed of in a similar way. In a new cesspool the chalk at first allows percolation of the fluid, but after two or three years the solid matter seals the pores of the chalk with an almost impervious coating. The newer cesspools are provided with inlet ventilators, but these are almost invariably plugged by the tenants.

In the northern part of the town there is great want of proper surface drainage. A large piece of waste ground is converted into a swamp by the accumulation of rain, for which no available escape is provided. A tramway embankment appears to to be the main obstacle to the escape of this surface water. It is proposed to fill up the hollows in which the water lies. Care should be taken that the material employed for this purpose is not putrescible.

The want of sewerage is especially apparent in the southern part of the town, where the dwellings have been pushed forward on to the alluvial marsh land which lies below the level of high water in the river."

ALTHOUGH the system of cremation has certainly made progress during the last few years, burial is still likely to hold its own; and even if burial in churchyards, *i.e.*, sepulture in the neighbourhood of large towns, may at a date not so very far hence be done away with, these churchyards will only be replaced by a catacomb, or rather mausoleum system of high standard. That this latter system is already coming to the foreground will be seen by referring to the "Kijewlanin" of Russia, or to the "Journal of the Franklin Institute" of the United States, both of which happen (on very nearly the same date) to bring forward reports on such systems as have just been proposed in the respective countries. Whilst, at Kiew, the city architect has laid before the municipal authorities a design for an extensive burial place in the shape of a pyramid, divided up into galleries and cells, showing such dimensions as would give accommodation to the dead of the city for at least a century to come, but not having any special features from the hygienic point of view; Mr. John Meyers, of Washington, has laid before the Committee on Science and Arts of the Franklin Institute of Pennsylvania a design for a system of sanitary entombment for the dead of New York, in the form of a mausoleum system on a large scale, so equipped as to make the contamination of the air surrounding all but impossible. According to the report of the sub-committee, this system depends for its operation upon the enclosing of bodies in receptacles (or sarcophagi) made of concrete, and the circulating of pure dry air through such receptacles; this dry air being discharged into a closed conduit leading to a furnace, where after passing through burning fuel, it is divested of all noxious or offensive properties, and is discharged through a chimney. The design

embraces the construction of a group of large buildings, having several floors and ample corridors with tiers of "receptacles" of concrete, each provided with a proper air-inlet and outlet separate from the ventilation of the buildings themselves.

A PROPERTY, known as Markyate Cell Priory, by Market-street, Bedfordshire, is offered for sale, consisting of an estate of about 410 acres, situated near to Luton and Dunstable, and a manor house, which was mainly rebuilt some sixty years ago, but retains portions of the ancient priory. This we take to be the religious house whereof Leland writes:—

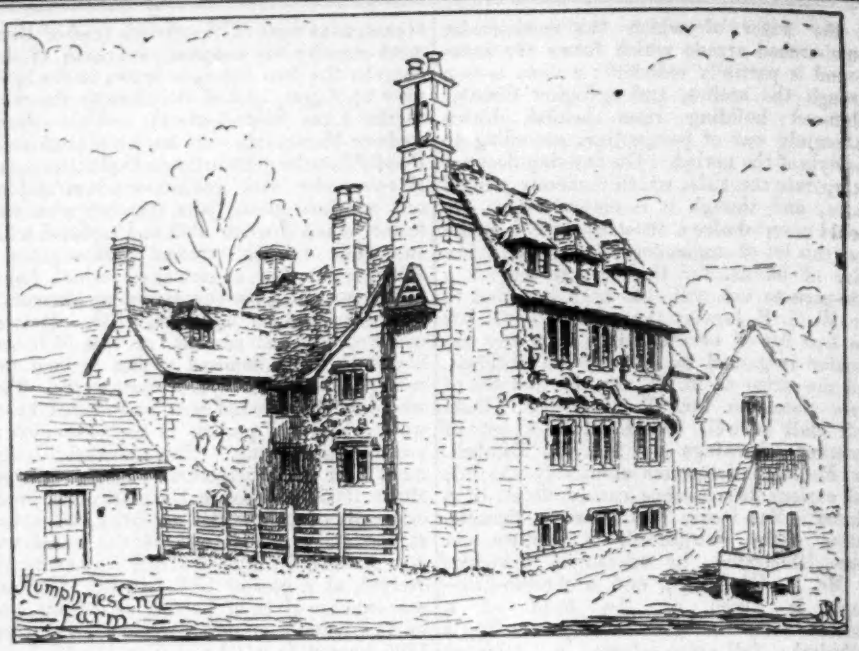
"Margate was a nunnery of late tyme. It standeth on a hill in a faire woode hard by Watheling-strete, on the est side of it. Humphrey Boucher, base sonne to the late Lord Berners, did much cost in translating of the priorie into a maner place: but he left it nothing ended."

The priory was valued in 26th Henry VIII. at 114*l.* 16s. 1d., according to Dugdale. Speed's valuation is 143*l.* 18s. 3d. In 1145 Dean Ralph and the chapter of St. Paul's, as lords of the soil, gave a site with lands to Christina, first prioress, when Alexander, Bishop of Lincoln, consecrated the church at Merkyate nunnery to the Holy Trinity. Matthew Paris says that Geoffrey, Abbot of St. Alban's, rebuilt the nunnery, and endowed it with the tithes of Cashio. Dugdale gives a list of the eleven prioresses, Joane Zouche being the last. In 38th Henry VIII. it was granted to George Ferrers, from whose descendant it passed, 1640, to the Coppin family, and thence to the Howells.

NORBURY PARK, near Dorking, a fine property covering about 860 acres in a favourite part of the county, was put up for sale at the Mart on Tuesday last, by order of trustees under the will of the late Mr. Thomas Grissell.* It is bounded upon three sides by the Mole; Mickleham Church, and what are locally known as the river "Swallows," lying to the south. The park is well timbered. In a wood upon the estate stands the Druids' Grove, composed of yew trees, many of which have attained to a great age. Norbury Park was held, 8 Edward II., by William Husee of Gilbert Earl of Clare at service of half a knight's fee; his daughter and heir, Isabel, brought it in marriage to William Wymeldon. From the Wymeldons it passed, 14 Henry VII., to Thomas Stodewolfe. Having devolved, in 1691, upon the Tryons, it was sold for 35,000*l.* to one Anthony Chapman, in 1766, who cut down many of the famous walnut trees. Eight years later it was bought by William Lock, who pulled down the old house in the meadows by the river, and built for himself the new house on the higher ground, whence the prospect extends to distances remote both north and south. Some of the sitting-room walls were painted by Cipriani and George Barret, the ceiling and the sky effects being by Pastorini. The property includes two farms and three separate residences, known as Foxbury, the Priory, and Cowalip Castle.

WE are glad to see that the question has at all events been asked, whether the Constitution-hill arch is ever to be surmounted by a *quadriga* group, or something of the same nature, in accordance with the intention of its ill-used architect, Decimus Burton. The reply of the First Commissioner of Works was that it would cost a great deal, and that he was not prepared to make that demand upon the Treasury. This, however, is the stereotyped reply in the House of Commons to all appeals in favour of a work of art, in the first instance at all events. A little persistence in asking the question will perhaps elicit something more, by degrees.

* We are informed that, having been withdrawn at the sale, it was afterwards purchased by private contract.



Old Cottages, Gloucestershire.

TRULY we live in an age of competition. Even "professional services" are put up to tender. A reliable correspondent sends us the following list of tenders:—

"WEST HAM.—For designing, planning, and superintending the erection of Poor-law schools, for the West Ham Union, Essex, including all attendances, travelling expenses, and all charges:—

A. & C. Harston	5 per cent.
J. T. Newman	5 ,, ,,
J. M. Knight (accepted)	2½ ,, ,,

This, as our correspondent says, is "cutting it fine." The successful competitor, we understand, is Surveyor to the Mile End Vestry.

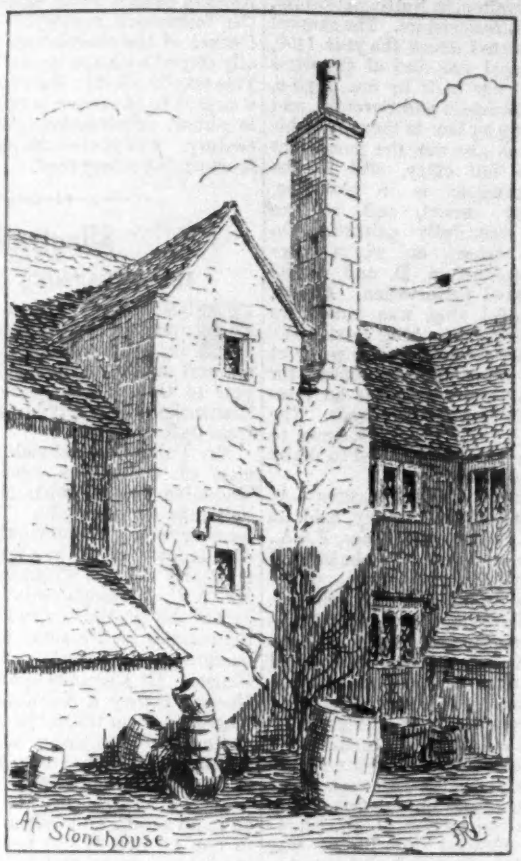
ROYAL ASSOCIATION FOR THE PROMOTION OF THE FINE ARTS IN SCOTLAND.—On the 30th ult. the annual meeting of this Association was held in the Society of Arts' Hall, 117, George-street, Edinburgh. Sir Thomas Clark, Bart., presided. In the unavoidable absence through illness of Mr. H. W. Cornillon, the Secretary of the Association, Mr. Ramsay, the clerk, read the fifty-sixth yearly report by the committee of management. The subscriptions for the present year amounted to 2,529*l.* Out of the sum placed at the disposal of the Committee during the year they had purchased from the recent Exhibition of the Royal Scottish Academy, and from the Exhibition in Glasgow of the Royal Scottish Society of Painters in Water-Colours, at a cost of 495*l.* 12s., works of art consisting of twenty paintings and nine water-colour drawings. The presentation work for this year consisted of a volume of reproductions of several of the best works of Sir Henry Raeburn, containing also a biographical sketch of the artist, and descriptive notices of the persons represented. The report was adopted.

OLD COTTAGES, GLOUCESTERSHIRE.—V.

THE farmhouse at Humphries End lies close to More Hall, illustrated on July 19. It is an instance of the late survival of mullion windows, since it is dated on the north side 1696. The style has become more formal, however, than the earlier work, and the usual return gables are not present. The dormers lit small spaces in the roof that, as I mentioned in writing of Surrey, were doubtless thought sufficiently good sleeping-berths at the time they were built, but are now closed up. It is probable, however, that the shutters that fill many of the windows are original, and that the windows were never glazed. The ground floor is kept well up and good cellar windows provided. The chimney "sets off" are of a usual form. The old houses in Church-street, Stroud, were built in 1642, as is narrated in the delightful "Notes and Recollections of Stroud," written by Mr. P. H. Fisher. They were very infirm, and I was told last November were shortly to be taken down to allow of the street being widened, so probably they do not now exist. The house shown in the distance, I learn from the same authority, was built in 1633 by Thomas Webb, a member of one of the principal weaving families. Other houses of this family are Egypt Millhouse that I have already illustrated, Gydyknap, and the Hillhouse, Wickridge, close to Stroud, built by this same Thomas Webb in 1634.

The sketch at Stonehouse is at the back of a house that, as shown by a mutilated projecting window, once possessed importance. The arrangement of chimney and gable is picturesque and instructive.

At Stonehouse is a fine Elizabethan house, of too important a character for my work. It has



At Stonehouse.

Owlpen Manor-house, Gloucestershire.

the central porch and other features of the period, and inside a mantelpiece carved with the royal arms. This has been illustrated by the Gloucestershire Archæological Society, and it is thought to commemorate Queen Elizabeth's visit here.

In the churchyard at Stonehouse are a number of "coffer" tombstones, most elaborately carved, and well worthy notice. One, at least, has very beautiful carving of a florid character, and must have been done by a first-class artist.

R. N.

THE ROYAL ITALIAN OPERA HOUSE, COVENT GARDEN.—In the course of this autumn will be offered for sale, at the Auction Mart (unless previously purchased) the ground-lease, for fifty-seven years unexpired, of the Royal Italian Opera House. The sale will extend to the library of music, the wardrobes, costumes, and furniture, together with a varied collection of theatrical "properties."

SCOTTISH OPINION ON THE TRAINING AND REGISTRATION OF PLUMBERS.

A CONGRESS of the Scottish District Councils acting in conjunction with the Worshipful Company of Plumbers, was held on the 31st ult. and 1st inst. at Edinburgh, under the presidency of Dr. Alexander Crum-Brown, Professor of Chemistry, Edinburgh. There was a good attendance of representatives from the several District Councils in Scotland, and the Clerk of the Plumbers' Company was also present.

The subjects discussed included the question whether any steps should be taken to enlarge or enforce the by-laws of municipal authorities with reference to plumbers' work in new dwellings and other buildings, and it was mentioned that in Aberdeen, where a set of by-laws had been framed by the co-operation of plumbers, architects, and other members of council, the result had been most beneficial to the community. Some reference was made to the question of registered against unregistered work, but the general feeling appeared to be that the power of the registered plumbers would certainly increase as their number increased.

The next question considered was the desirability of obtaining Parliamentary powers. It was very strongly urged that plumbers of all grades should be made to recognise the vital influence of their work upon the health of the community. It was necessary that there should be an Act of Parliament to ensure that none but thoroughly skilled and competent men should undertake plumbers' work. "Can certificates be cancelled or suspended under the present voluntary system?" was the next question dealt with, and, after full discussion, it was answered in the affirmative. A resolution was passed to the effect that the best way to get plumbers to take practical interest in the movement was to promote technical education among members of the trade by the maintenance and extension of the plumbers' classes, and by affording inducements to plumbers to attend—at the same time impressing upon public authorities, architects, master plumbers, and the public generally the advantages of employing none but registered plumbers.

The Clerk of the Plumbers' Company described a graded syllabus of instruction in the principles and practice of plumbing which the Company were preparing, together with model indentures, with the object of identifying the systematic training of apprentices with the conditions of their apprenticeship. A resolution was passed expressive of the opinion of the Congress that a graded scheme of education for plumbers, including workshop practice, was feasible and desirable; that the scheme of the Worshipful Company of Plumbers should be considered by the District Councils; that all apprentices should be indentured, and that master plumbers should interest themselves in the education of their apprentices.

It was further resolved that it would be desirable that a general as well as a district list of all registered plumbers should be issued, that the laws of all district councils should be framed after one model, and that pocket certificates should be issued to registered men.

A long discussion took place as to whether it was desirable to have a Central Board in Scotland for the management of the business of the Scottish Councils, but the general feeling was against the suggestion, and it was decided instead to have a similar Congress annually, Glasgow being fixed upon as the next meeting-place.

The Chairman, in closing the proceedings, said the Congress had more than answered his expectations, and that was saying a good deal. It was a great pleasure to him to listen to the frank and full discussions which had taken place, and he was especially pleased to note the remarkable unanimity in the opinions elicited from the representatives of the several Scottish Councils.

ARCHÆOLOGICAL SOCIETIES.

CAMBRIAN ARCHÆOLOGICAL ASSOCIATION.—The forty-fifth annual meeting of this Association will commence at Holywell, Flintshire, on Monday, August 18, and will be continued on the four following days.

DERBYSHIRE ARCHÆOLOGICAL SOCIETY.—On the 26th ult. the members of the Derbyshire Archæological and Natural History Society made an expedition into East Derbyshire. They arrived at Dronfield about noon, and inspected the church under the guidance of Mr. J. B. Mitchell-Withers, F.R.I.B.A., who had prepared a paper upon it, and which he read to the visitors assembled in the chancel. First dealing with some of the changes which had been impressed upon the fabric, he observed that it was not certainly known by whom it was erected, but in all probability it was by one of the family of Brailsford soon after the Norman conquest. Early in the reign of Elizabeth, commissioners were appointed to survey the chancel and the parsonage-house, and to certify to the decays thereof; how long they had been in decay; by what occasion, and who had made any waste, and by whose default the same remained unrepaired. They were also to estimate the cost of the repairs, and what the parishioners would contribute towards it. The commissioners reported that the east window of the chancel had fallen down, and was in great ruin and decay; that other windows were in decay for

want of glass and iron, and that the roof and other parts of the fabric were out of repair; but no lead or timber or other matters had been taken away. The parishioners undertook to provide all stone, lead, and other things for the repair of the church. In 1818 the church was struck by lightning, and the spire and other parts of the building were much damaged, and it had to undergo extensive repairs. Coming to the architecture of the church, as it exists at the present time, Mr. Mitchell-Withers said the remains of the Norman period were small, and consisted of the piers of the tower arch, the base of a buttress at the west end of the north aisle, and the bases and capital of the nave piers. The latter had been recut and altered at different times, but still retained some of the elements of their original sections. The south aisle is of the Early Decorated period simply treated, its windows being of the class called intersecting tracery. The north aisle had been of a similar class of work, but evidently rebuilt, probably after the damage by lightning in 1818. The result was unsatisfactory and weak. The chancel is of a later period, probably about 1300, and is a fine example of Geometric work, with touches of transition to the next or Curvilinear style, seen in the ogee form of the canopies of the sedilia. The east window is denuded of its tracery, but retains its original jambs and arch. The tracery of the other windows is of excellent design. The ancient stained-glass in the windows is of a fragmentary character; but the whole is beautiful in colour, and contains exquisite bits of design, and he trusted it would never be replaced by modern work. The remains of the stalls are simple and massive, and are ornamented with a four-leaved flower and poppy heads, and they were not much later, he believed, than the chancel itself. The vestry and room over are of the same date. The square-headed window in the south aisle is of the Curvilinear or Late Decorated period, and must, he thought, have been inserted to give more light to the altar of the Blessed Virgin, which was situated below it. The remains of the piscina still exist behind the boarding, and Perpendicular work occurs in the tower and spire. In the chancel are two interesting brasses, one to the memory of the Fanshawe family, dating from 1573; the other representing two ecclesiastics, former rectors of the church, one Thomas Gomfrey, who died 1399, and the other Roger Brailsford, who died 1396. A bugle horn is suspended between the two, having reference to the Foresters of Wormhill, to which family Gomfrey belonged. The upper portion of the pulpit is English Renaissance, and is a very fine specimen. It is similar to those in Chesterfield, Rotherham, and other neighbouring churches. After luncheon, the visitors proceeded to Beauchief, in order to inspect the Abbey. The party having taken seats within the Abbey Church, Mr. J. D. Leader, F.S.A., read a short paper on the history of the Abbey, and explained the position of the monastic buildings. The Abbey was founded by Robert Fitz Ranulph, between 1172 and 1176, and dedicated to St. Thomas the Martyr. It was given to the white canons of the Order of Premontré, and was made a daughter of Welbeck. The only remains now standing are the west tower and a portion of the nave of the church; but on the south side of the church it is easy to recognise the site of the monastic buildings. Mr. Leader pointed out the position of the chapter house, the refectory, the guest chamber, and the abbot's lodgings, all standing around the cloister garth. Beyond these, round an outer court, were the domestic offices, brewery, bakehouse, barns, stables, &c., occupying the site of the present farm buildings. The church has been long without aisles, but with north and south transepts, and an aisleless choir and presbytery. At the intersection of the nave and transepts stood a tower, the ruins of which now form a grass-covered mound. Large portions of the ruins have been taken away for the erection of modern buildings; but in a meadow lying south-east from the church there are indications of buried foundations, which Mr. Leader suggested might be the site of the infirmary. Subsequently the visitors proceeded to Norton, and at Norton Church Mr. Francis Westby Bagshawe, J.P., described the principal features. He said that the church probably was built by the founder of Beauchief Abbey, on which it was dependent, as were also Dronfield Church and churches at Edwalton, in Nottinghamshire, and Wymeswold, in Leicestershire. The chancel was, he thought, erected about the year 1490, and the Blythe Chapel was also of the same period. This latter was built by one Blythe, who was Bishop of Lichfield and Coventry, and the chapel was put up by him in memory of his father and mother, as also was the monument of his parents, in full effigy, still in the church. This monument is in alabaster, and is exquisitely carved, and at one time had been beautifully painted. On the roof of the bosses, on which were carved roses, the monogram, D. and I.H.S., were in a good state of preservation. A door, just below the chapel step, was closed up during the late restoration. After leaving the church Mr. Bagshawe entertained the party at tea at The Oaks, where he had placed for inspection in one of the ante-rooms an interesting series of early charters and deeds. The excursionists, after leaving The Oaks, drove to Sheffield station, whence they returned to Derby after a pleasant expedition.

Newcastle Society of Antiquaries.—At the monthly meeting of this Society, held on the 30th ult., Dr. J. Collingwood Bruce, F.S.A., read a long and interesting paper on the life and antiquarian labours of Mr. John Clayton, whose death was recently recorded in our columns. Subsequently, Dr. Hodgkin read some "Notes on the discovery of twelve bronze vessels on the site of Prestwick Carr," and Mr. Boyle read a paper "On the materials, printed and unprinted, for the history of Northumberland."

Wiltshire Archæological Society.—The annual meeting and excursions in connexion with this Society were held at Devizes on Wednesday, Thursday, and Friday last week. The business meeting was held on the first day at the Town-hall. On the motion of Mr. Story-Maskelyne, M.P., General Pitt-Rivers was elected President of the Society for the ensuing year. The Rev. F. H. Goddard, one of the general hon. secretaries, read the report of the Committee. This showed that the total number of members on the books was 373, or a decrease of four. Reference was made to the loss by death of the Right Hon. E. P. Bouverie, the Rev. Prebendary Scarth, Sir Daniel Gooch, and the Rev. H. Brown-Cave. Profound regret was expressed at the resignation of the Rev. A. C. Smith as hon. secretary and editor of the magazine, and a warm tribute was paid to his valuable services. The report also referred to the work done by General Pitt-Rivers in excavating Wans Dyke and Bokerley Dyke. The report was adopted and ordered to be printed. The President, General Pitt-Rivers, then delivered his inaugural address, which was descriptive of the excavations that he had made during the past ten years in the two Romano-British villages of Woodarts and Rotherley. The address was illustrated by diagrams and models. At the close of the paper the Rev. C. U. Plenderleath took the opportunity of referring to a curious mistake which had been made during the meeting of the British Archæological Association at Devizes ten years ago, and which had been allowed to pass uncorrected ever since. It was stated at that meeting that Devizes Castle was built by "Roger Poore, Bishop of Salisbury." Now it was a fact that no such person as Roger Poore was ever Bishop of Salisbury, but it was evidently a mistake for Roger the Norman. He thought it was advisable, in the interests of correct history, that the mistake should be mentioned and put right. The members then adjourned to the churches, which were explained by the Rev. Dr. Burges, and by the kindness of Sir Charles Rich the grounds of Devizes Castle were visited, and the principal points of interest were shown and explained. On the following days there were excursions to various places of interest in the locality, including Potterne, where the Ven. Archdeacon Buchanan described the old church, pointing out that it was built in the early part of the thirteenth-century. The party then proceeded to the Old Porch House, the property of Mr. W. B. Richmond, R.A., of which Mr. Walter Buchanan gave an interesting account. Various ideas were hazarded as to the date of the building, but it was generally agreed that it was Elizabethan. The floors were originally of mud and rushes, but now Mr. Richmond has had them laid with tesselated pavements. After inspecting the museum of curiosities, the party proceeded to Market Lavington, where Mr. C. E. Ponting, Diocesan Surveyor, read an interesting and comprehensive paper, saying that formerly a Norman church stood there, and was rebuilt in the fourteenth century. A very interesting feature of the church was that the floor originally sloped with the natural level of the earth. This was levelled in the fifteenth century. The staircase to the tower is only 16 in. wide, and is in perfect preservation. The tower is fifteenth century. The roof of the chancel is the original fourteenth-century roof.

Illustrations.

ILLUSTRATIONS OF OXFORD.

The illustrations in this and the next number have all been selected in reference to the annual excursion of the Architectural Association, which takes place this year to Oxford and its neighbourhood. The illustrations in the present number are all taken from Oxford itself.

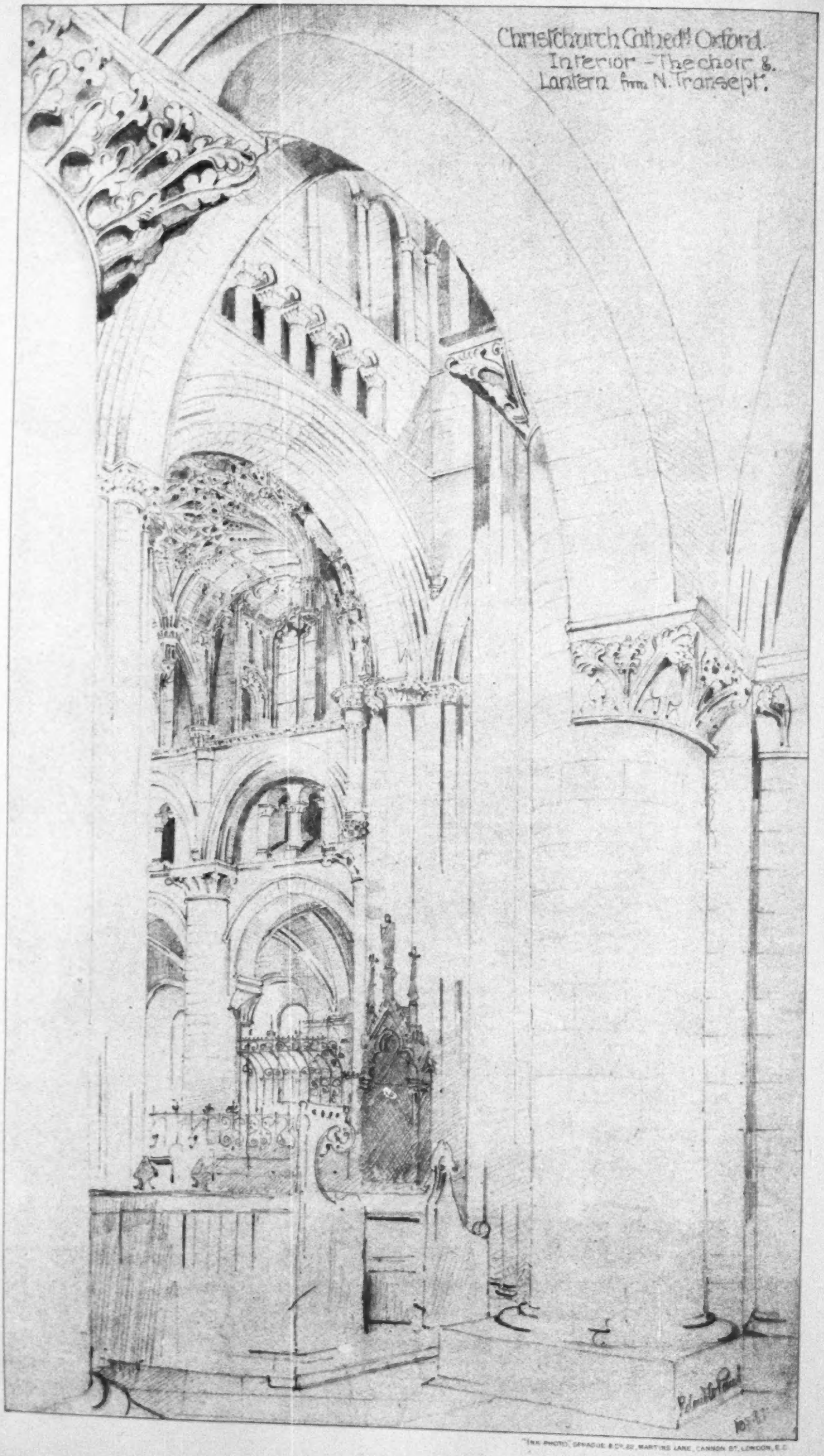
Mr. Fulleylove's sketch gives the first near view of Oxford as seen on entering it by Magdalen Bridge, with Magdalen tower and buildings on the right. Views of two of the most remarkable ecclesiastical structures in the city follow: St. Mary's spire and the interior of Christ Church Cathedral. Three views of Mr. T. G. Jackson's buildings are illustrated: part of the interior of the Examination Schools, the exterior of the same building towards the quadrangle, and the new buildings of Corpus Christi. Mr. Champneys's Indian Institute, and Messrs. Bodley & Garner's new buildings at Magdalen, form the subjects of two other plates, and another one gives various sketches made for this occasion from Merton College and Christ Church Cathedral.

All the illustrations are further commented on in an article on another page; but in regard to one or two of the new buildings we have received some special information from their architects.

Begun in 1876, the main building of the Examination Schools was finished in October, 1882, and inaugurated by a concert, at which H.R.H. the Prince of Wales was present. The building was completed in 1888 by the addition of the building at the corner of Merton and of High-street, containing a library for the unattached students, and various delegates' offices. The materials used are Clipsham stone for exterior dressings, Chen stone within. The body of the walls is of stone from Headington, and where not faced with ashlar, facings of Gibraltar stone, hammer-dressed, are used. The marble work in staircase and angle halls is chiefly Italian, and in some cases consists of antique fragments from the ruins of the baths of Caracalla at Rome. The cost of the whole block, including the schools proper, and the non-collegiate building, including lighting, heating, and ventilating, and all structural decoration, such as the moulded plaster ceilings, marble work, chimney-pieces, chandeliers, &c., door-cases, and carving, of which every detail was studied and designed by the architect, was about 106,000*l*., which is rather less than 1s. 2d. per cubic foot on the entire work.

The Indian Institute is built in Teynton stone. Messrs. Symm, of Oxford, were the contractors. The present building includes rather more than half of the entire scheme, the museum and library being at present little more than one-third of the length of those designed. It is intended ultimately to extend it some 40 ft. along the "Broad," and the additional site has been secured. The present portion was erected in 1883-4.

The Ancient Archbishop's Throne, Canterbury.—As reported in the *Times*, Mr. Cavendish-Bentinck last week asked the Vice-President of the Committee of Council on Education whether he was aware that the Archbishop's throne which was presented to Canterbury Cathedral by Archbishop Tenison, and which was designed and executed by Grinling Gibbons, had for many years past been stowed away as lumber in a damp cellar adjacent to the Cathedral cloisters; and whether he would, on behalf of the Department of Science and Art, apply to the Dean and Chapter for the loan of this beautiful and interesting work in order that it might be rescued from its present unsatisfactory position, and preserved in the Kensington Museum. Sir W. Hart-Dyke said that he was much obliged to Mr. Cavendish-Bentinck for calling attention to the matter, and would be glad to act upon his suggestion as soon as possible. How does it come about that such an artistic relic has been for so many years treated as lumber? Some one of those concerned ought surely to have known better.



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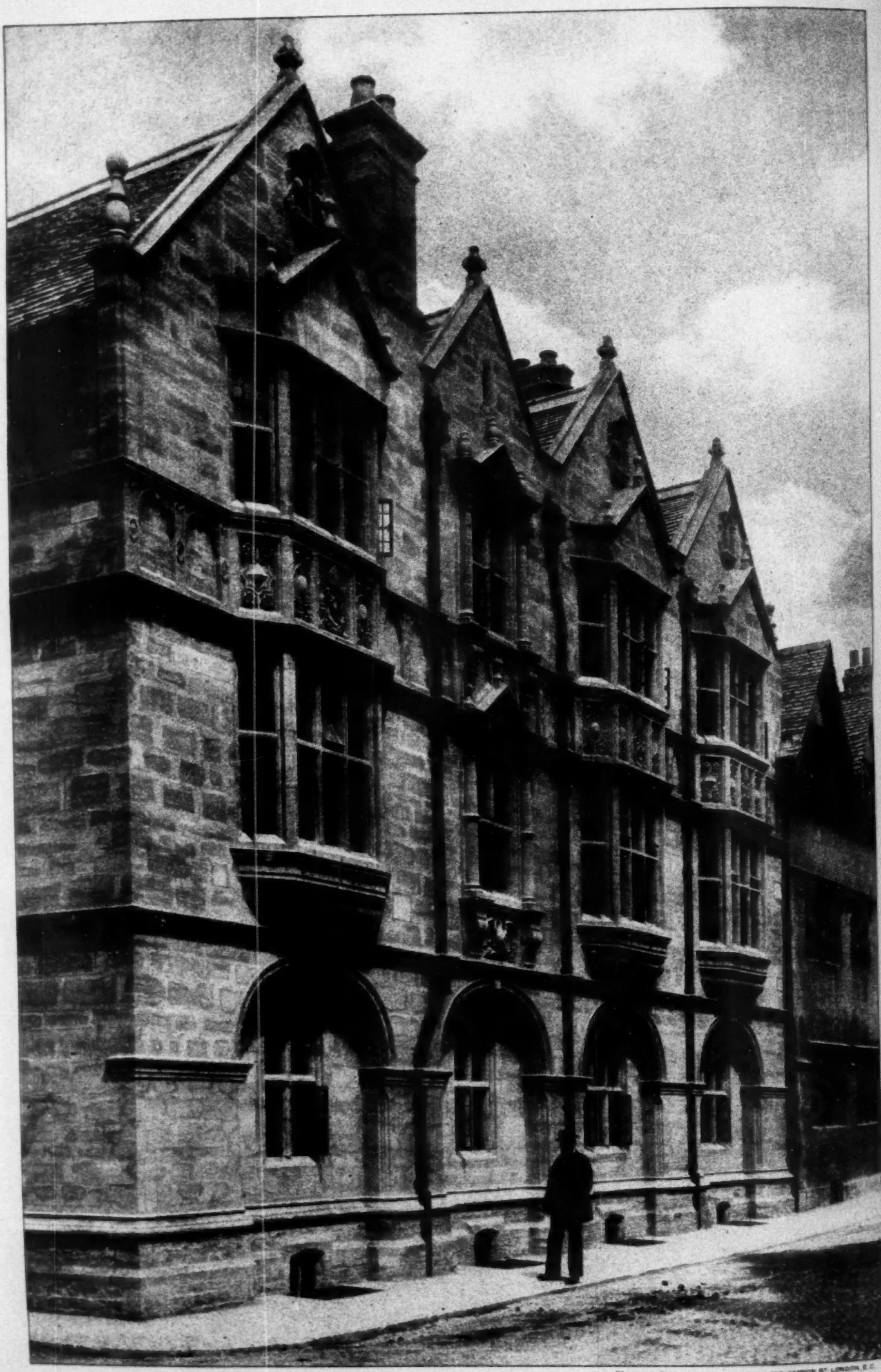
"INK PHOTO" SPRAGUE & CO. 22, MARTINS LANE, CANNON ST. LONDON, E.C.

OXFORD: NEW BUILDINGS, MAGDALEN COLLEGE.—Messrs. Bodley & Garner, Architects.



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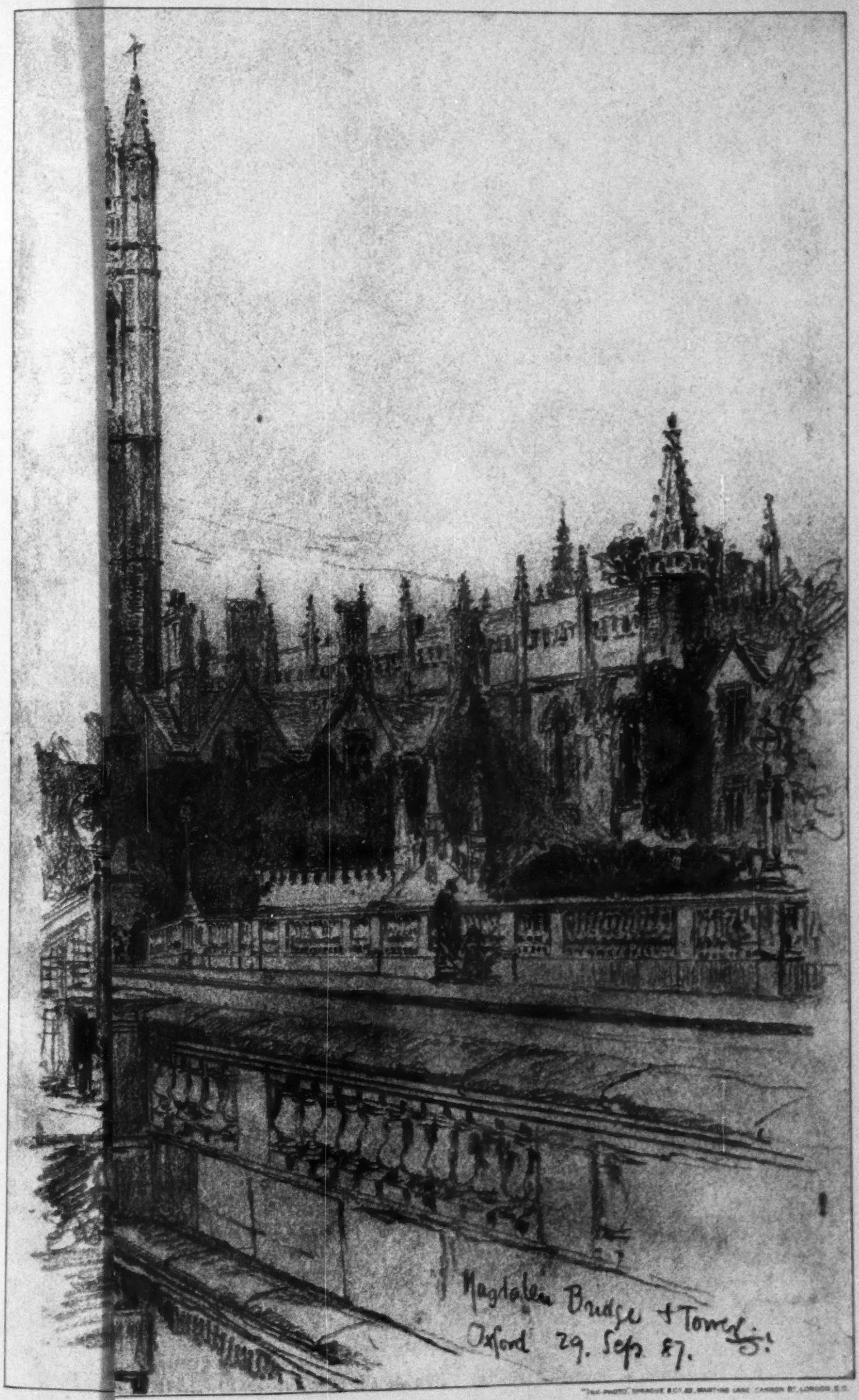
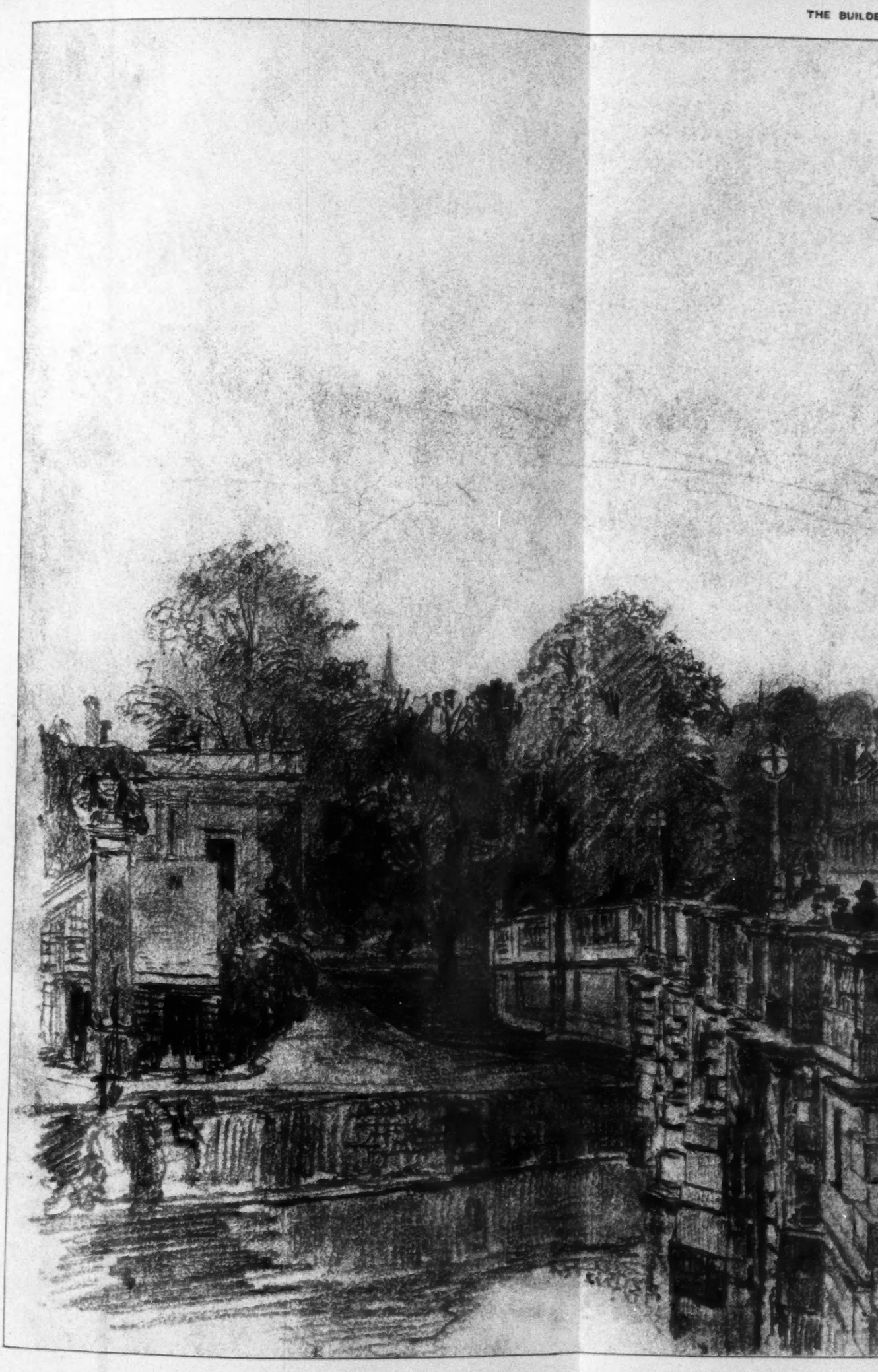
OXFORD: NEW BUILDINGS, CORPUS CHRISTI COLLEGE.—Mr. T. G. Jackson, Architect.



MR. J. FULLEYLOVE.



OXFORD: MAGDALEN TOWER FROM BR

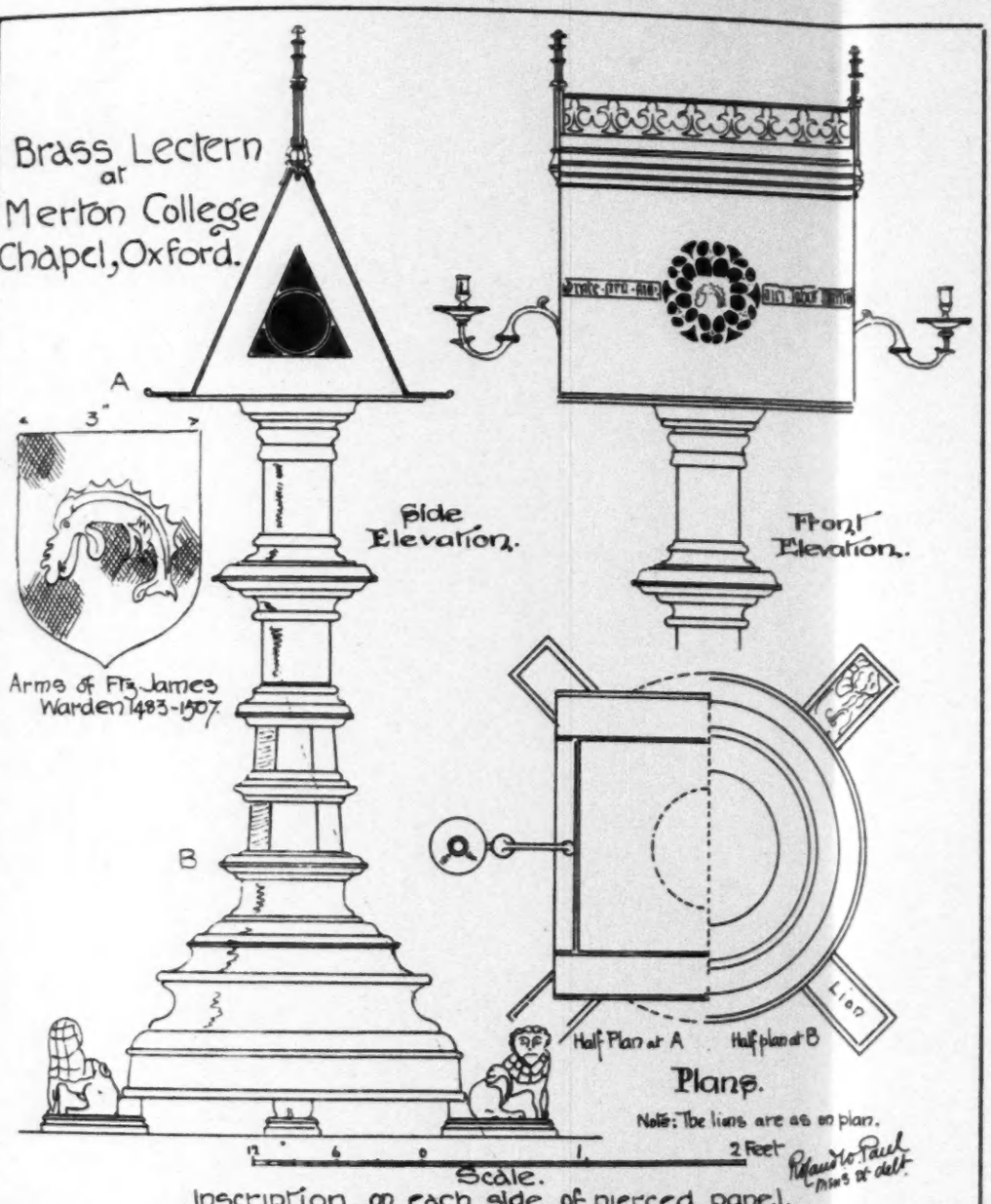
M BRIDGE.—From a Drawing by Mr. J. Fulleylove.

OXFORD: NEW EXAMINATION S

UPPER HALL

N SCHOOLS.—Mr. T. G. Jackson, Architect.
HALL AND STAIRCASE.

Brass Lectern at Merton College Chapel, Oxford.



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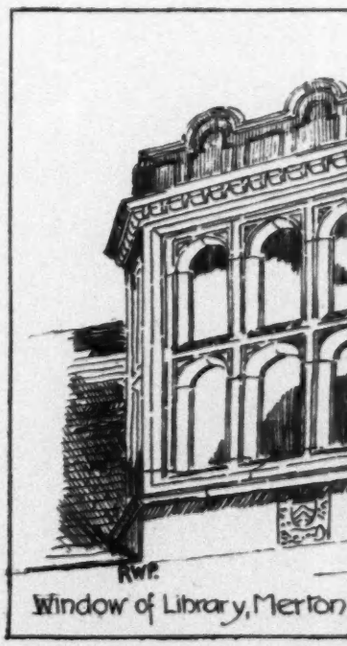
The Architectural Association Excursion to Oxford. and Neighbourhood

Carving from Miserere, New Coll: Chapel



Window of Library, Merton

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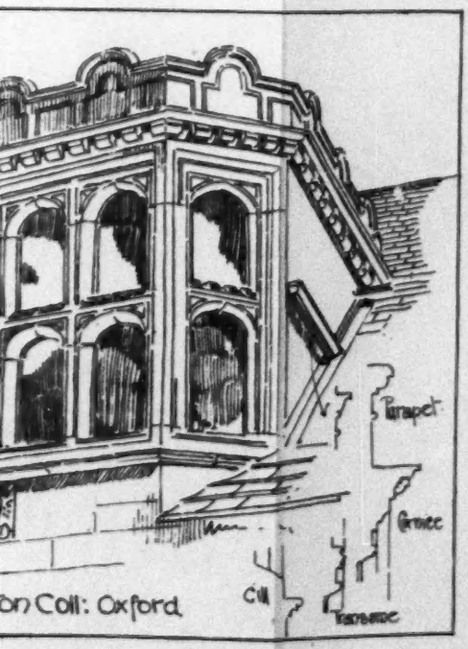
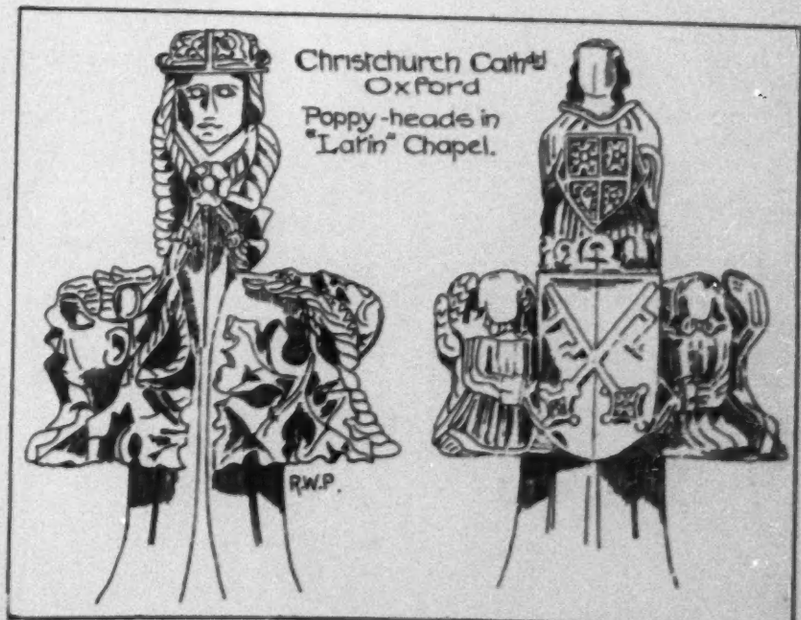
Merton College Oxford.
The Chapel from East.



...on Coll: Oxford

Christchurch Cath^l
Oxford
Poppy-heads in
"Latin" Chapel.



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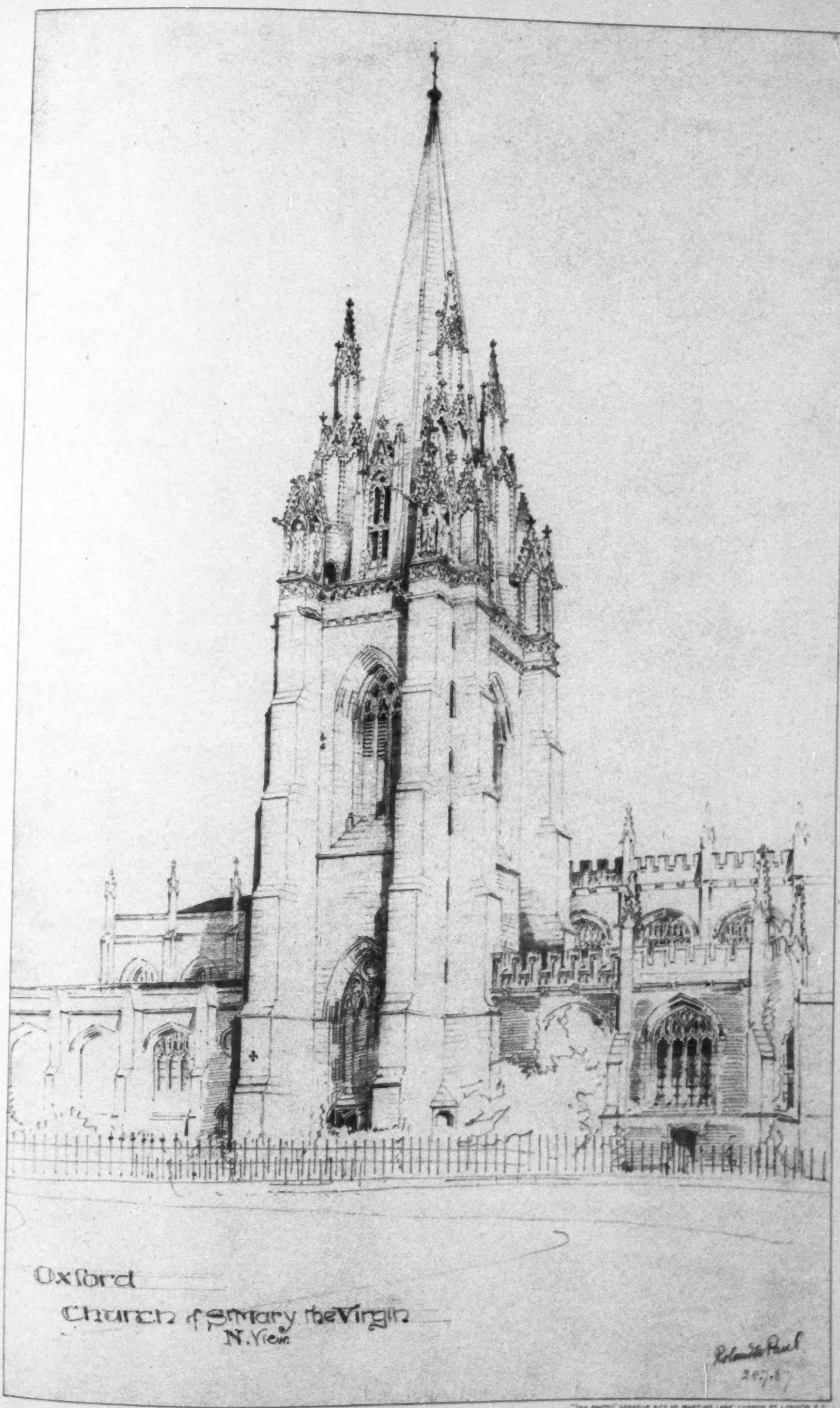
OXFORD: NEW EXAMINATION SCHOOLS.—Mr. T G. Jackson, Architect.

CENTRE FEATURE FACING QUADRANGLE.

OXFORD: THE NEW INDIAN INSTITUTE.—Mr. Basil Champneys, Architect.



Oxford

Church of St Mary the Virgin
N. View.

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THE PHOTOTYPE SYNDICATE, 6 & 7, ST. MARTINS LANE, CANNON ST. LONDON, E.C.

BOYLE'S PATENT VENTILATORS.

Mr. Robert Boyle, of the firm of Robert Boyle & Son (Limited), has, with characteristic enterprise, just made his third circuit of the globe, with a view, we are informed, of "awakening an increased interest in sanitary science and securing the adoption of improved sanitary measures and appliances,"—especially, we make no doubt, Boyle's ventilators. "The first country visited" (we quote from an account which has been sent to us) "was Egypt, where Mr. Boyle surveyed the Palace of the Khedive at Cairo, furnishing plans and estimates for the ventilation of it. At Bombay, in India, he made an examination of the drainage of that city, and submitted plans for its ventilation. The Boyle system has also been adopted at the military barracks and officers' quarters, Bombay. In China, he surveyed the French Cathedral at Canton, supplying plans for the ventilation, also the Summer Palace of the Emperor at Peking. A scheme for the improvement of the sanitary condition of the capital has likewise been submitted to the Chinese Government through Li Hung Chang, the famous Viceroy and virtual ruler of China, whom Mr. Boyle had the honour of meeting at Tientsin. When in Shanghai Mr. Boyle tested his system of ventilation as applied to the Shanghai Club, said to be the finest club in the East, and the following report from the architect, Mr. J. Cory, F.R.I.B.A., testifies to its success:—'The application of your system of ventilation to the Shanghai Club has proved so successful and given such satisfaction that I purpose using it exclusively in my practice here. Your latest improved air-pump ventilator has successfully withstood the trying conditions of this climate, where open pipes and other such arrangements have proved useless.' The Chinese Merchant Steamship Company, Shanghai, have adopted the Boyle system of ventilation for their vessels, several of them being already fitted with air-pump ventilaters. In Japan Mr. Boyle surveyed the new Imperial Houses of Parliament, also the Imperial University of Japan, for the ventilation of which buildings plans have been sent in. Mr. Boyle returned to England *viâ* the United States and Canada, important contracts being pending in San Francisco, and a scheme of ventilation having been sent in for the Canadian Houses of Parliament, Ottawa." We are informed that it is Mr. Boyle's intention to publish shortly in book form his experiences in the East.

Last year we mentioned Mr. Boyle's visit to Salt Lake City, Utah. In the course of his three journeys round the world he seems to have surveyed mankind "from China to Peru," and if he continues at this rate he will soon be sighing, like Alexander, for other worlds to conquer.

The English Iron Trade.—The English iron market is firm, and the trade doing, though moderate on the whole, shows more life. Pig-iron is in a rising tendency, although so far the advance has not been much, showing itself chiefly in the greater stiffness of makers. Middlesbrough No. 3 is from 3d. to 6d. per ton dearer. The Glasgow warrant market has also been stronger, and there is more inclination to buy. Scotch makers' iron is likewise in more request, at firm prices. Although business is rather slow in Lancashire, a steady tone is maintained. In the Midlands there is a fair current of activity. A slight rise has taken place in the North-west for hematite pig, makers now selling at 53s. 9d., the figure quoted for warrants. The demand for manufactured iron is somewhat brisker, at unchanged rates. Steel continues rather quiet, but steady, and even stiffer. Shipbuilders continue to receive fresh orders, and engineers remain active.—*Iron.*

Properties for Sale.—(1) Duirinish, comprising the lands of Skinidin, Colbost, and Glendale, at the head of Loch Follart, in the west of the Isle of Skye, a sporting estate of 25,000 acres, and divided into several holdings, all yielding a net rental of about 1,000*l.* a year. (2) By auction, at York, on September 13, Bossall Hall, in the North Riding, lying on the western side of Derwent-vale. This estate, being nearly 500 acres, possesses many historical associations, and has been held during five centuries past by the ancestors of its present owner.

Scotch Estate for Sale.—The Invermay Estate, situated in the valley of the Earn, on the south-eastern confines of Perthshire, will be exposed for sale at Edinburgh on September 10 next, at an upset price of 95,000*l.* It extends over nearly 3,900 acres, whereof 2,620 are under cultivation, with 690 acres of woodland. The house stands on the western slope of the Ochil Hills, overlooking the vale, and in the policies are the Invermay birks, watered by the river May, a tributary of the Earn. The free rental, exclusive of the mansion and shootings, is stated to be 2,642*l.* a year.

Books.

Kelly's Directory of the Building Trades. London: Kelly & Co., 51, Great Queen-street.

The sixth edition of this excellent Directory has just appeared. It purports to comprise "every trade and profession in any way connected with architecture and building throughout England, Scotland, and Wales, and the principal towns in Ireland." The volume extends to nearly 2,000 pages, and is well printed and arranged. So far as we have tested it we have found it to be reliable and up to date in most respects. We may point to one omission in the list of Metropolitan Vestries and their officials. The office of Surveyor to the Vestry of St. Martin's-in-the-Fields is indicated in the Directory as vacant; but the appointment of Mr. Charles Mason to that office was mentioned in the *Builder* of March 1 as having taken place in the previous week. The preface contains some interesting statistics as to the number of persons to whom the building trades give employment. The number for London alone is stated at 125,619, a total which is thus made up:—Architects, 2,067; surveyors, 1,173; builders, 7,333; carpenters and joiners, 38,143; bricklayers, 23,231; mason paviours, 7,514; plumbers, 7,503; painters and glaziers, 28,181; plasterers, whitewashers, &c., 6,706; paperhangers, 1,808; sculptors, 328; and wood-carvers, 1,632. These figures are stated to be taken from the last-published "Occupations of the People." If the description "mason paviours" means masons and paviours, the figures given, 7,514, seem to us to be of doubtful accuracy, for the use of stone in London buildings has largely increased of late years, and, we should have thought, would give employment to more than 7,514 people. It is true, on the other hand, that stone paving is not so much used in London as it used to be. The Directory includes lists of County and Borough Surveyors, and other official information; but, as we pointed out in our review of the fifth edition in 1886, the Directory would be improved in usefulness by the addition of a few pages devoted to lists of the Architectural Societies, the Master Builders' Associations, and the principal trade unions connected with the building trades, with names of the principal officers and statistics of membership. Some of this information is given in scattered fragments under different towns; but these fragments form a very incomplete whole, if we may be allowed the expression. We trust that in the next edition of the Directory our suggestions under this head may be adopted.

Electric Light Fitting: A Handbook for Working Electrical Engineers, embodying Practical Notes on Installation Management. By John W. Urquhart. London: Crosby Lockwood & Son. 1890.

This book "is addressed to intelligent men already engaged in the work of electric lighting or training for it, and it more especially refers to the branches known as 'fitting' or 'wiring.'" The opening chapter deals with central-station work, and it is when considering the means which have to be adopted to overcome the sparking at the commutator of a dynamo machine, that Mr. Urquhart first regards his subject in the light of science. In a paragraph headed "'Lead' in the Adjustment of the Brushes," the author says: "It will be found, notwithstanding the calculations of several eminent electricians to the contrary, that even in dynamos with no iron in the armature, as in Siemens's alternator or the Ferranti dynamo, 'lead' must be given to the brushes." Mr. Urquhart ought to be truly grateful to all eminent scientific men for giving him, as they almost invariably do, opportunities of showing the superiority of his own methods. When one of the author's "eminent" men makes a calculation the result is hopelessly wide of the truth; if a consequence of theory is given it agrees in no way with fact. These little peculiarities, however, do not in any way detract from the value of the work, for we need hardly say that in every case Mr. Urquhart is able to give the true solution or explanation by virtue of his own experiences. The rough-and-ready tests suggested in the next chapter, for the discovery of faults which are likely to occur, may prove useful to those who are unable to use the more accurate methods generally employed by electrical engineers. But the author seems astonished to find that instruments designed to measure quantities of a certain magnitude will not do equally well to measure others one hundred or a thousand times as great, for he remarks:—"It is curious that scarcely any of the instruments that have been hitherto employed for measuring purposes in the laboratory or class-room have been found useful for the practical work of the dynamo-room."

The descriptions of various pieces of electric-lighting plant and apparatus are good, though telling nothing that is new and cannot be found in the illustrated catalogues of manufacturing firms. An important exception, however, must be noted in connexion with accumulators where 0·5 volt is given as the limit to which the electromotive force may be allowed to fall during discharge; unless this figure is to be taken in a "scientific" sense, it is obviously a misprint.

On the subject of "The 'Dangers' of Electricity," we find ourselves able to agree entirely with the author. His views may be summed up in his own words as follows:—"... a good deal of discreditable work in the form of wiring has been done by unscrupulous contractors. ... There is one leading maxim for a contractor putting in electric light, and it is to avoid contracts that do not allow of the best class of material and labour being used throughout."

As the men for whose special use the present volume is intended will be engaged for many years to come in laying underground mains, it might reasonably be expected that a chapter or two should be given up to this most important branch of "fitting," more especially as very little indeed has been published about it and become public property. It has possibly something to do with this fact, that the reader may look in vain for the sadly needed information throughout Mr. Urquhart's pages.

L'Exposition Universelle. Par Henri de Parville. Paris: J. Rothschild, 13, Rue des Saints-Pères. (1890.)

This book, which forms the twenty-ninth annual volume of the series known as "*Causeries Scientifiques*," is a compendious record of the Exhibition of 1889. It is prefaced by a letter to the publisher from M. Alphand, who, having perused the proof-sheets of the work, says it gives "une idée exacte de la grande manifestation nationale qui vient de se terminer, en jetant sur notre pays un si glorieux éclat." He adds that he deems his own participation in the Exhibition to be the greatest honour of his long career, and goes on to say that "Le talent de M. de Parville s'affirme une fois de plus dans cette œuvre, à laquelle il a su donner une forme attrayante, et je pense que son livre fournira des informations utiles à tous ceux qui se sont intéressés à notre grande Exposition du Centenaire, véritable revanche pacifique des malheurs immérités de la France." M. Alphand's encomiums appear to be fully deserved. The book is pleasantly and clearly written, and the author seems to have availed himself of the best sources of information, for he expresses his thanks to the leading architects and engineers associated with the Exhibition for having placed at his disposal documents, drawings, sketches, photographs, &c. The book is well printed, and copiously illustrated by 700 engravings. Many of these are devoted to the constructional details of the Exhibition buildings, including, of course, the large Palais des Machines and the Eiffel Tower; others consist of general views of the Exhibition buildings and their contents. Some of these engravings, it is true, —notably those showing the construction of the vast roof of the Palais des Machines,—are too small to give more than a reminiscence of the construction, which is perhaps sufficient in a popular book of this kind; those who want more than this can revert to the French and English engineering journals. The book is divided into seventeen chapters, the first of which not only details the preliminaries of the Exhibition, but describes and illustrates previous great international exhibitions, including those held in London in 1851 and 1862. The second chapter is devoted to a description of the site, or rather sites, of last year's Exhibition, and the disposition of the various buildings on the Champ de Mars, the Quai d'Orsay, the Esplanade des Invalides, and in the grounds of the Trocadéro. Succeeding chapters are devoted to the means of locomotion to and from and within the Exhibition; to the

gardens and terraces; to the Palais des Machines, the Palais des Industries Diverses, the Palais des Beaux-Arts, and the Palais des Arts Libéraux; to the mechanical, electrical, and hydraulic services, including the luminous fountains; to the Eiffel Tower; to the Pavillon des Travaux Publics; to the Pavillon des Forêts; and to the Pavillons de la Ville de Paris. Many of the most representative of the contents of these pavilions, illustrating public and municipal works of great importance, are figured and described. The sanitary administration of the City of Paris is treated of at some length, and is not the least interesting topic of this very interesting book.

The Works' Manager's Handbook of Modern Rules, Tables, and Data for Civil and Mechanical Engineers, &c. By WALTER S. HUTTON. Fourth Edition. London: Crosby Lockwood & Son, Stationers' Hall Court. (1890.)

THIS excellent handbook has been noticed by us at some length on the occasion of the appearance of earlier editions, particularly the second (see the *Builder* for September 5, 1885). The book is well printed, and contains upwards of 150 illustrations. This edition, we are assured on the title-page, has been carefully revised and partly re-written, and we are glad to see that the author has acted upon some of the suggestions made by us, and has inserted a variety of new matter relating to steam-engines and gas-engines, further information as to pumps, and useful practical data for water-supply. The work will be found exceedingly useful for reference.

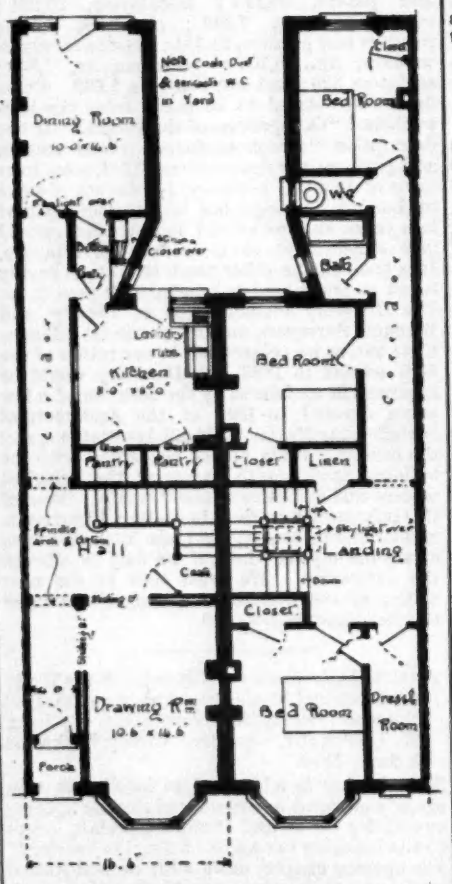
"Waterworks Statistics," 1890, edited by Charles W. Hastings (London: Hazell, Watson, & Viney, Creed-lane, E.C.), is a very useful compilation. This, the tenth edition of the book, contains more information than any previous edition, columns having been added for "storage capacity" and "daily consumption per head of population." But it must be added that the figures recorded in these two columns are few and far between. This is evidently not the fault of the editor. The figures regarding the London water companies are of special interest just now, and they will be found in this book. ——"Gas-works Statistics," 1890 (same editor and publishers as the foregoing work), has now attained to its twelfth edition. It is very carefully compiled, and gives not only the quantity of gas made and the dividends paid, but the number of consumers, the quantity of coal carbonised, the price charged to private consumers and for public lamps, the number of street lamps, the illuminating power of the gas, and other information relating to the gasworks of Great Britain, Ireland, and the Continent.——*The Antiquary* for August (London: Elliot Stock) is a good number. Its contents include an article on "A Recent Visit to Pompeii," by Prof. Frederick Halbherr; some interesting accounts (from MSS. by Sir Edward Pytts, Knt., 1588–1618) of the cost of labour and materials in building the Manor House of Kyre Park, Worcestershire (edited by Mrs. Baldwyn-Childe); a paper on Monumental Brasses in Yorkshire, by R. H. Edleston; and several other articles of interest.——*Cassell's Magazine* for August (London: Cassell & Co., Limited) has a short article calling attention to "Two Little-known London Libraries," viz., the Patent Office Library and the Ronalds Library of the Institution of Electrical Engineers. "Few persons" (remarks the writer) "outside the circle of inventors and patent-agents are aware of the existence of an excellent scientific library in the very heart of London,—namely, the free library of the Patent Office, in Southampton-buildings, Chancery-lane. Still fewer know of another which is also open to the public at certain times, and contains the best collection of electrical books in the kingdom. This is the Ronalds Library of the Institution of Electrical Engineers, at 4, Broad Sanctuary, Westminster Abbey. The former is open every week-day from 10 a.m. to 10 p.m.; and the latter is free to visitors unconnected with the Institution from 10 a.m. till 8 p.m. on Mondays, Tuesdays, Wednesdays, and Fridays, and on Thursdays and Saturdays from 10 a.m. till 2 p.m. This collection was a gift of the late Sir Francis Ronalds, the well-known telegraph inventor, to the Society of Telegraph Engineers, now the Institution above named, and it has been further enriched by a large donation of rare and valuable works belonging to Mr. Latimer Clark, F.R.S."——*The Sunday at Home* for August (London: 56, Paternoster-row) contains an engraving and description of Archbishop Whitgift's monument, in Croydon Parish Church.——*The Boy's Own Paper* (published at the same address) contains two illustrated articles on "Figure-heads of Famous War-ships." One of the illustrations to these articles is an engraving of the picture by Mr. H. S. Marks, R.A., entitled "Old Friends."

Correspondence.

To the Editor of THE BUILDER.

AN AMERICAN SUGGESTION FOR THE IMPROVEMENT OF EIGHT-ROOMED HOUSES.

SIR,—I have seen with much interest the letters on, and improved plans for, an eight-roomed house. While in England I lived in a suburb not far from London, on the London and North-Western Railway, where miles of the "everlasting" type of house were constantly going up. I can therefore fully realise the necessity for improvement. I send you the



enclosed plans of a house, showing what an American would do under the same conditions. The house contains the usual feature of the drawing-room, entering from the hall with sliding-doors, and as the dining-room would be only used for meals, I have placed it at the back and connected it by a butler's pantry (containing sink and china-cupboard over) to the kitchen, which contains two glazed earthenware laundry-tubs in lieu of the usual copper. The bedrooms have a closet to each in the usual way.

ARTHUR CLAPTON.

46, *Eagle-street, Albany, N.Y.*
July 8, 1890.

"THE BERMONDSEY PUBLIC LIBRARY COMPETITION."

SIR,—On February 3 last the Vestry of Bermondsey approved the plan submitted by myself showing the land proposed to be appropriated for the Public Library. I did not at that time contemplate the opening of any windows on the north and east boundaries. The fourth condition of the Instructions, which were approved by the Commissioners prior to being issued, is equally explicit to the same effect, nor up to the present moment has any sanction been given by the Vestry conferring a right to open such windows.

With reference to the awards, I can only state that they were not made in accordance with my recommendations.

GEO. ELKINGTON.

95, *Cannon-street, E.C.*, Aug. 6.

SIR,—It may interest some of your readers who sent in designs for the above to know that we wrote to Mr. Harrison, Clerk to the Commissioners, asking whether windows might be opened on the boundaries adjoining the Town-hall, and were informed that they could not. Also that on the morning the designs were to be delivered the Commissioners held a meeting, and proceeded to examine the designs which had already arrived.

Do not the conditions of competition constitute an agreement between the Commissioners and the competing architects? If so, would not some combined action on the part of the latter be advisable?

The conditions state that the Commissioners reserve to themselves the right of selecting the design to be adopted, but do not confer on them the right of selecting a certain number, and awarding the premiums, without first submitting the whole of them to their assessor.

Briefly, the competition has been conducted in a most irregular and unfair manner, the Commissioners having repudiated the most important conditions, and arrogated to themselves powers they were not at liberty to assume.

This is not a question of person but of principle, and it is quite time the members of the profession took measures to secure fair play.

GIBSON & RUSSELL.

34, *Craven-road, W.*, August 6.

SIR,—I was a competitor in this, and received my drawings back (minus the specification and report) just prior to receiving the *Builder* of last week.

I have read with interest Mr. Cole A. Adams's letter on the subject in your issue of the 2nd inst. [p. 92], and I have again looked over the "Instructions to Architects" issued by the Commissioners. No. 4 was a subject to which I paid great attention, as the property belonging to the Commissioners and that of the Town Hall are as separate and distinct as any other adjoining owners, and as such I treated it.

Note the last paragraph but one of the Instructions: "Any design," &c., &c., "or which does not comply with the other conditions and instructions, shall be excluded from the competition!" Plain, certainly. Again, in the last paragraph but four of "Instructions," it is stated that if tenders do not come within 10 per cent. of architect's estimate, then another design may be selected, and so forth. To be brief, fifty-four architects have lost time and money. What other profession or business throws away so much time and money on such work? And many can ill afford it! Can this sort of thing last?

HARRY T. PERCIVAL.

97, *Mill Hill-road, W.*, Aug. 4.

SUB-CONTRACTING IN THE BUILDING TRADE.

SIR,—With reference to the report published in your issue of June 28 (pp. 468 and 469), also Mr. Robins's letter in your issue of 5th ult. (p. 3), and Mr. Graham's letter in your issue of 12th ult. (p. 29), we would be glad if you would permit us to add a few remarks to same.

We cannot agree with the general tone of the arguments of the deputations of the building operatives, because architects' specifications are generally very rigidly drawn; the best materials and finish are invariably specified. A clerk of works is generally appointed to see that the specification is faithfully carried out. When this is done, and the contract finished to the satisfaction of the architect or engineer, a certificate to this effect is given and payment made to the contractor on production of same. Now it follows that if the clerk of works and architects (or engineers) pass and give certificates for "scamped" work or improper materials, they are as much to blame as those who put in these things. Evidently, then, if the arguments be true, it is necessary for the profession first of all to "set *their* house in order," and all who do business under the same will perforce do likewise.

The old question of wages is a very trying one. We cannot agree that any employers of labour should be compelled to pay the "'union' rate of wages." Our experience of "union" men is, that they consist (like all other men) of good, bad, and very indifferent hands; hence if they are to be indiscriminately paid *alike*, either the better men will be paid too low, or the worst men too high. Hence the good man, finding he receives no better wage than the inferior one, at once takes things easy, reducing his day's work down to about the level of the slow, or careless, or indifferent (possibly drunken and dissolute) hand, instead of the latter striving to attain the abilities of the former, which, in the millennium of the union, would mean harder work for such, and no extra pay. Or, looking at it in the abstract, it seems no matter what are the man's capabilities, he has only to join a "union" and his wages are assured at the highest rate, and one dare not pay him less! Such an idea must present itself

as both impracticable and impossible to all right-thinking men.

Now as to "sub-letting." It is possible this may be carried to an undue extent, and that "scamped work," or inferior (and sometimes totally different) material may be used to what is specified, but it would seem the profession and their clerks of works should have such practical knowledge as to prevent all this. But assuming not, then surely there cannot be any objection to respectable, proved, established firms, of good repute (possibly "specialists," as it were, in their particular line), still doing their work as "sub-contractors," as hitherto. If this system is carried to an undue extent, the remedy appears to lie not in architects and others prohibiting "sub-letting" *in toto*, but in approving of the firm to whom the contractor proposes to sub-let the work. Being large employers of quarry labour, we may be forgiven if we add that, in our opinion, no better sub-contractors can be than quarry-owners, because they not only have a reputation for good work to maintain, but are very jealous to see that only the most suitable stone is used, as specified, having the further interest in maintaining the good reputation of their stone, as well as labour, and it will be at once seen that by so doing the circumstances to which Mr. Paul Weighill alludes, viz., "so that when people thought they had a Portland stone front it often happened that other stone was mixed with the Portland," are obviated, and the proper material is assured, as no Bath stone quarry-owner could attempt to palm off say Weldon stone, or a Portland quarry owner endeavour to pass the inferior "Beer" stone. Mr. Weighill's experience of machine-worked stuff is very original; but putting aside the fact that machine-worked stone is as much a necessity nowadays as machine-worked wood, particularly to compete against terra-cotta, which, we believe, cuts against masons more than anything else alluded to by the various speakers, we believe there are not a few turned balusters in London evidencing the durability of machine-worked stone equally well with perhaps the handworked plinth, dies, and capping to same. We allude to these, not as in any sense the only examples of machine-worked stone,—because there is that which comes from the ordinary planing and moulding machine,—but because every inch of face of anything turned comes under the machine-tool and is exposed, whereas in a cornice or string-course, one of the faces only is seen that has passed through the machine. We may add, however, that, assuming Mr. Weighill's statement to be correct, viz., "when such machine-worked stuff was new and wet, it was often possible with one's thumb-nail to scrape off the surface to the extent of an eighth of an inch, owing to the pulverisation of the surface by the machinery"; it is also equally possible to do so from under the "stuns" of a mason's chisel; but where the precaution is taken to rub the surface of all stone, whether machine or hand worked, the matter of which Mr. Weighill speaks is thus removed, and we may add, further, that, if properly machined, no pulverisation whatever occurs, or can be detected, either with one's thumb-nail or any other medium, as can be daily proved in our yard.

Mr. Weighill's experience as to quarry-worked stone also appears to be very unique. Indeed, so much so, that some time seems to have elapsed before he committed himself to the remarks, which appear so entirely contrary to facts, that we crave permission to endeavour to rectify his apparent incorrect statements. Having stone worked at the quarries does not mean employing "cheap labour." At least, in our district we pay as high a rate as we believe is paid anywhere in the provinces, and higher than obtains in many parts of the country where there are no quarries. The secret of the cheapness of quarry-worked stone lies in the fact that the quarry people, having (1) a large stock to select from, are able to select blocks to cut with a minimum of waste; (2) they have to pay carriage upon the net weight of the stone only, when worked, instead of upon waste as well; (3) the stone is delivered in its finished state direct from the quarries to site, instead of (as is the case with block stone), delivering it first to the builder's yard to be cut and worked, and thence to the site,—double cartage; and (4), the quarry people lay themselves out for the best and quickest manipulation of their own stone, using the best and most effective machines for sawing, rubbing, turning, planing, moulding, &c.; and their masons, who are constantly working upon their particular stone, are able (as can be readily understood) to do more work upon that stone than a mason could in a builder's yard, who in turn has, perhaps, to work Portland, Bath, and York (of their several sorts), perhaps a little marble (of all sorts), then some granite, after which he has to turn his hand to some Caen, Ancaster, Ham Hill, Mansfield, or Dumfries, &c.; after which he may be sent on to a job to chip down some badly-made or badly-fitting terra-cotta. A builder's machinery, too, let it be ever so good and extensive, that has in turn to be used upon, perhaps, each of these stones, cannot be made so effective upon any particular material as a quarry-owner's, whose machines are, from year's end to year's end, constantly engaged upon the same stone, are specially made and adapted for the same, the grit used is the most suitable, and even the speed regulated to be the most effective upon their particular stone.

As we have said, quarry-owners having also a reputation for the durability of their stone to maintain, would, and do, see the quality they work up and send out is not only well finished (not scamped), but that the stone is of the most durable quality, of the sort specified, possibly, and most certainly not substituting for, or mixing with, an entirely different stone, as Mr. Weighill says other (not quarry) sub-contractors do.

Mr. Gregory's lamentations, we think, can easily be explained, not by the stone being worked out of London so much, as the large quantity of brick and terra-cotta now used, which has been brought about to a considerable extent by masons (or the leaders of masons) themselves, owing to their unreasonableness and the great strike in which they were engaged some time since, when the new Law Courts were building. We observe, however, that he attributes the proclivity to "slurry" over the stone to the London sub-contractor, whereas Mr. Weighill (in his after-thrust) says this is a quarry sub-contractor's trick! Either Mr. G. or Mr. W. is incorrect, or both are right, perhaps; then, if so, why need Mr. Weighill complain of what his London friends are as guilty of, apparently? Mr. Gregory's remarks are evidently directed to *soft* stone, in which it is perhaps possible to resort to the scheming he mentions with advantage, but not so in the harder stones, and if his statements be true, the quarry-worked stone becomes the more necessary, because, as stated earlier, presuming the workmanship to be as bad as the London work is stated to be, the architect is at least sure of getting the quality of stone he wishes, whereas he is not sure of even that much from the merciless London sub-contractor, according to Mr. G., who says, "Needless to say that one kind of stone was often substituted for another with impunity, the substitution never being discovered by the clerk of works or the architect."

Mr. Macvicar Anderson's reply seems to us very much to the point. And we believe that if the North of England method were more generally adopted, a much better result would obtain. Professor Aitchison seems afraid this may entail more work on the architect; but if so the result were better; architects would not object to the extra work we feel sure.

Following the line of argument used by the members of the deputation quoted, we countryfolk might as strongly protest against the using in the country of stuff manufactured in London, and if the objection were practised on both sides, commerce would receive a severe check. And again, a hue and cry has long been made against country-people flocking to London; but if their means of living is to be still further taken from them here, then London will have a still larger crowd of these people to contend with.

Mr. Robins's letter in your issue of the 5th ult. (p. 3) hardly calls for comment from us, except that we observe our recent remarks second his replies to Mr. Anderson's and Professor Aitchison's remarks.

Mr. Graham's letter in your issue of the 12th ult. quite agrees with our view, and we may add that, although our operations do not go further into the building trade than the quarrying, sawing, working, and, where required, fixing of stone, we have been long trying to devise a means of co-operation with our workmen, and although we have not yet been able to do so, we trust we shall soon be in a position to admit them on similar lines to the Co-operative firm at Brixton to which he draws attention.

QUARRY-OWNERS.

July 30, 1890.

*** Although "Quarry-Owners" have been somewhat tardy in their rejoinder to some of the allegations made by the deputations to the Institute of Architects, we print their letter, on the principle of "*Audi alteram partem*." The matter is also commented upon in our first "Note" this week.

THE VENTILATION OF CHURCHES.

SIR,—The statement in Mr. Standage's opening remark on page 92 that a discussion upon this subject in your columns would do good, is quite right, but his own remarks show that if a proper practical remedy for the bad air in churches is to be got, we must have some real knowledge of the cause of this bad air.

Mr. Standage blames the carbonic-acid gas exhaled from the lungs, which, he says, is very heavy, and so "it sinks down to the ground;" and, therefore, he wishes some process that "would lift off from the ground this heavy poisonous gas and clear it away." Now if it were really true that the carbonic-acid gas was so "very heavy," and that it "really fell down to the ground," the best way to get rid of it would simply be by boring, making, or leaving holes in or near the floor to let it run away like water. When we do try this, however, we find that instead of this "very heavy" CO_2 running out down these holes in the floor, it is the ordinary air, fresh or otherwise, that blows up! The law of gravitation would, therefore, appear to be set at naught here. Carbonic acid gas is half as heavy as ordinary air, but the energy involved in the law of the diffusion of gases prevents the carbonic acid gas sinking to the ground, as Mr. Standage says, and causes it to be equally distributed. It is owing to this that the proportion of CO_2 at the top of a mountain is the same as at its base. When the CO_2 is exhaled with the expired air from the lungs to the extent of 100 times more than is inhaled, it is warm, being heated to 97 deg., and so it rises with the other air towards the ceiling, and seeks to get out there; but, on account of either no provision, or inefficient provision, being made to let it out, it gets cooled, and then falls, and all the more so as it is displaced by the warmer air continually rising. We want, therefore, simply in the ceiling of a church one or more sufficiently large openings properly fitted to let this warm, vitiated air out, and to carry it off as it rises upwards. This can, generally speaking, quite easily be done by automatic means, and without the continuous expense of a fan, if a good wind-acting exhaust ventilator is set up above the ridge, and with a large enough pipe. Further, as the down-draught at times through a large pipe would be a nuisance, a proper self-acting anti-down-draught appliance should be used; and when this is done, with proper fresh-air inlets, complaints of bad air in churches from the persons assembled would cease. When architects and others put up only 10 or 18 in. pipes in place of 24 in. or 36 in. diameter (or their equivalent), it is no wonder that bad and short-allowance systems of ventilation in churches give disagreeable results.

W. P. BUCHAN.

Glasgow, August 2, 1890.

The Student's Column.

HOT-WATER SUPPLY FOR BATHS, LAVATORIES, ETC.—VI.

INDEPENDENT BOILERS: *continued*.

INDEPENDENT boilers can be fixed in any position where convenient for stoking, in a basement or cellar, or at the side of the kitchen range, and the smoke-pipe can be connected into the kitchen range flue. If a vertical shape is selected, it will occupy but little room.

Independent boilers can be had in every conceivable design and size, but there is not one yet made that is worthy of any particular recommendation for this work. There are great numbers of excellent boilers so far as their ability to heat water is concerned, but as hitherto they have hardly ever been used for other than heating purposes only, manufacturers have not been called upon to consider the "fur" question; this is the drawback to all the existing patterns, as there is hardly one which will admit of easy cleaning.

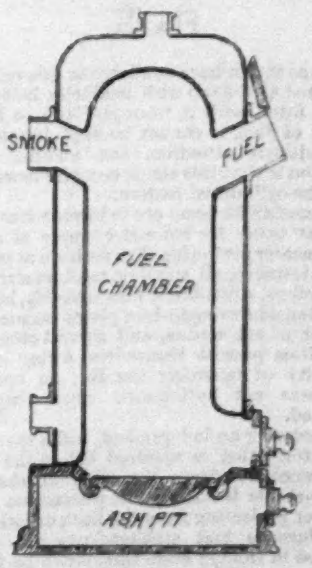


FIG. 10

Fig. 10 represents in section a vertical domed top cylindrical boiler, one occupying little space and having every convenience for stoking, &c., but a circular boiler of this sort is most difficult to clean out, and it should have at least two manholes and three or even four mudholes (holes, about 1¼ in., at the lowest point for scraping out the loose "fur," as the hand cannot be inserted); this illustration shows a boiler having the waterway terminating at a level with the fire-bars, and an improvement is effected (but at a little more expense) by having the waterway continued to the bottom

as fig. 11, the greater portion of the fur is then found below the fire-level, where no harm can

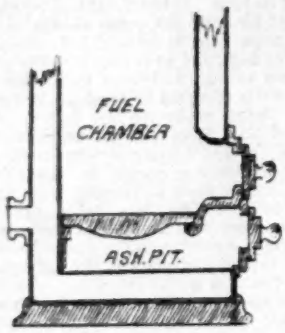


FIG. 11.

be done, and what adheres to the flat boiler-plate surface around the fire is more easily removed than from the angle as in fig. 10.

The fuel used with these boilers is usually coke, an economical and clean fuel, and if the boiler is filled up to the top the charge is sufficient to last a number of hours, varying with the size of the boiler and the way the dampers are set or regulated. The speed of combustion is regulated by a valve at the furnace front, and it can be further regulated by having a valve damper fitted in the smoke nozzle or pipe. The coke fuel must be broken small, about walnut size, otherwise it will wedge or "bridge," and the fire burn hollow by reason of the fresh fuel not falling as the lower portion of the charge is burnt away.

A better shape for cleaning purposes is as

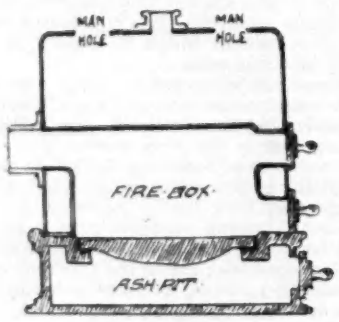


FIG 12.

fig. 12, as it can have one large or two ordinary lids fitted at the top with mudholes below, but unless fitted with a "hopper" top to take a charge of fuel, it cannot be kept burning for long without attention, and another slight objection is that this shape occupies more room than the cylindrical pattern.

It remains for some one to introduce an independent boiler for hot-water supply of a character nearer perfection than we have at present, as, for instance, all small or medium-sized vertical boilers, when fitted with man-lids, have the objectionable wrought-iron plates secured by a number of set screws, and several other little difficulties present themselves owing to the necessity of removing the fur, an operation that was not anticipated when they were designed.

In ordering an independent boiler the following information is required before the maker can proceed:—State the position that the smoke-nozzle is required in, whether on top or whether projecting from the back or either side (the furnace and stoking-doors are always situated in front); state what size pipe is being used, and indicate where the return-pipe is to be connected (the flow-pipe should always start from the top); indicate where the man-lids should be put, so as to be easily accessible for removal; state whether $\frac{5}{8}$ in. or $\frac{3}{4}$ in plate is required (the latter is about one-fifth more expensive than the former), and it is much the better to mention that a valve-damper is required in the smoke-nozzle, as few makers provide this unless specially ordered.

Before proceeding to treat the various fittings, tanks, pipes, &c., used in this work, it will perhaps be best to describe the two most common forms of apparatus in general use, as by this means the explanation devoted to appliances will be rendered more clear.

THE TANK SYSTEM.

This is the style of apparatus that succeeded the simple arrangement described in the first paper. Strange to say, it has never had any distinguishing name given it, and the term, "tank system," is only now applied to distinguish it from the cylinder system.

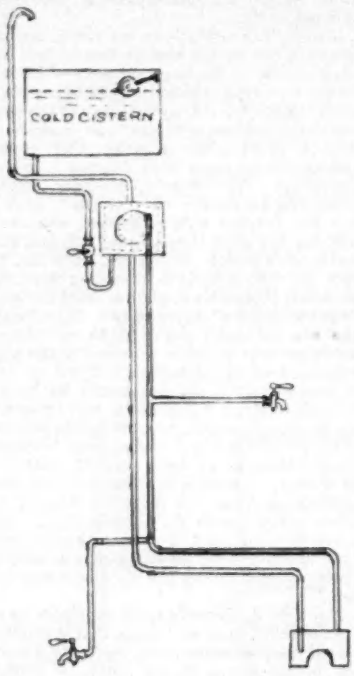


FIG. 13.

Fig. 13 is the general arrangement of this system, and one of the chief features about it, as the name implies, is the tank, which is always fixed somewhere above the highest draw-off service, commonly in the bath-room, or an up-stairs linen closet, or in the roof. If the tank is fixed anywhere below the draw-off services, it practically converts the apparatus into the cylinder system, as will be understood from the next paper.

As to the position of the tank, this needs some consideration; in the first place it must be below the cold water cistern; occasionally it is fixed on a level with this cistern, but in principle this is bad and should be avoided, as the least shortness in the cold water supply interferes with the hot water, and, what is worse, fixing the tank on a level with the cold water cistern means necessarily that it is to be fixed in a cold position, in the roof or in a cistern-room. This is one of the strong objections to this system, viz., that the tank being at the top of the building must be in a cold situation, and the efficiency of a hot water supply apparatus is in ratio to the amount of heat it can keep within the water, not the amount of heat it can dissipate, or be robbed of by cold surroundings, which is the aim and object of a *heating* apparatus.

To make this system at all economical as well as successful, the tank must be kept warm, or in a warm position. This can be done either by having the tank within a closet or in a warm room, or much better by casing and packing it with some poor conductor of heat,—sawdust, hair, &c.; the insulation of tanks, pipes, &c., will be more fully treated in a later paper.

When the position of the tank is located, a service-pipe, known as a "flow"-pipe, is carried from the highest point in the boiler to the tank, where it is connected near to the top, either through the side, or through the bottom and projecting up inside, as shown in the illustration. This is the pipe up which the water finds its way from the boiler immediately heat is applied to it. To allow of the corresponding volume of cold water coming down to replace the hot, a second pipe, called the "return"-pipe, is provided, starting from a low position in the tank, either from the bottom, as illustrated, or from a low point in the side, and from there it is carried down to near the bottom of the boiler, usually through the top, projecting down inside as shown. It should be noted that it is customary to speak of the "flow"-pipe as proceeding from the boiler to the tank, and the "return"-pipe as from tank to boiler.

The flow-pipe should always be connected from the very highest point in the boiler, and on no account must it be screwed through the boiler-plate, so that it projects down inside in the least degree, otherwise an air-chamber will be formed. It will be readily understood that if this pipe project through the top plate, as in

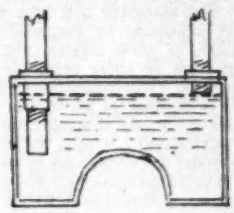


FIG 14.

fig. 14, the boiler cannot be filled beyond the end of this pipe as shown, as the air cannot be expelled. As an example, supposing an ordinary glass tumbler had a hole drilled in its side, and the tumbler was then inverted and lowered into a vessel of water. The result would be that the tumbler would have the water rise up within it as far as the top edge of the hole, but little further (only so far as a certain compression of the air will allow), and the air in the upper portion of the glass cannot be expelled except by having another hole made at the top (or by shaking the glass violently). This formation of an air chamber in the boiler is a very prolific source of trouble, and it occurs with the greatest frequency either through carelessness or ignorance on the fitter's part. It frequently happens that the fitter connects the flow-pipe into the side of the boiler, one of the worst of practices, and only to be tolerated under some very special circumstance: when this is done the air is got out of the top of the boiler by packing the manlid, but only partially securing it; so that when water is allowed to run into the boiler, the air is driven out and the lid then finally tightened up.

The particularly ill results experienced from the cause under discussion are that it is accountable for the violent noises and shaking that is sometimes experienced with new work (noises in old work are generally accounted for by furred pipes) as when the boiler is heated and steam generated the latter expels the air, and afterwards the steam itself has to escape, and as both the steam and the air have to be forced down through water to escape up the flow pipe, the violence exhibited cannot be wondered at. A further annoyance and source of trouble arising from this cause, and which is quite as objectionable as the noises, is the fact that as the water is not always in contact with the upper boiler plate, the manlid packing quickly gets destroyed and wants renewing, and this particularly with india-rubber manlid collars.

OBITUARY.

Mr. Charles Roach Smith, F.S.A.—We hear with great regret of the death of this veteran antiquary and author, which took place at his residence, Temple-place, Strood, on Saturday last, at noon. Only a week or so before, he was presented with the medal struck by the Society of Antiquaries of London in recognition of his life-long services to archæology. The presentation was made privately, consequent upon the critical state of the recipient's health. Moreover, a surplus of over 100 guineas accompanied the medal, the presenting of which was entrusted to his intimate friend, Mr. G. Payne, F.S.A., on behalf of the subscribers. His decease is a national loss; but in Strood, where, according to the *Maidstone and Kentish Journal*, he has been the means of aiding many young men to rise in life, he will be mourned by all classes of the people. He was a prolific writer, the chief of his works being published by subscription. At the time of his death he was engaged on the closing volume of his "Retrospections—Social and Archæological." He was justly regarded as the greatest modern authority on Roman antiquities in Britain. Only two or three years ago he took part in a controversy as to the walls of Chester, and in former years he was a valued contributor to the columns of the *Builder*. According to "Men of the Time," he was born at Landguard Manor, in the Isle of Wight, early in the century, had written "Collectanea Antiqua," seven vols., 1848-66; "The Antiquities of Richborough, Reculver, and Lymne," 1850, with supplements on Lymne and Pevensey, 1852-8; "Illustrations of Roman London," a work based on the author's personal researches made during his residence in the City of London, when he formed the collection of local antiquities described in his

"Illustrated Catalogue of the Museum of London Antiquities," 1854. This collection was transferred to the British Museum in 1856. Mr. Roach Smith's earliest antiquarian papers were printed in the "Archæologia;" and he contributed to the earlier volumes of the British Archæological Association, and to the *Gentleman's Magazine*, in which he wrote the monthly article called "Antiquarian Notes." With Mr. T. Wright he founded the British Archæological Association, the forerunner of the numerous archæological societies, and many of his contributions are in its "Journal." In 1856 he edited the "Inventorium Sepulchrale" of Bryan Faussett. Mr. Roach Smith had devoted much attention to pomology, and especially to the culture of the vine in the open ground; and in 1863 he published a pamphlet, which had a large circulation, "On the Scarcity of Home-grown Fruits in Great Britain, with remedial suggestions" (second edition 1868). In 1868 was printed privately "Remarks on Shakespeare, his Birthplace," &c.; and in 1870 was published "The Rural Life of Shakespeare, as illustrated by his Works." Mr. Roach Smith also wrote the Catalogue of the Anglo-Saxon antiquities discovered at Faversham, Kent, and bequeathed to the South Kensington Museum by Mr. Gibbs. Since his retirement from London to Strood, Mr. Roach Smith has actively assisted the Kent Archæological Society, and he has contributed many papers to its "Archæologia Cantiana;" and also to the Metropolitan Societies. He has received the first Medal of the London Numismatic Society, of which, for some years, he was secretary. He assisted in editing the "Dictionary of Roman Coins," by the late Seth W. Stevenson.

GENERAL BUILDING NEWS.

PROPOSED MUNICIPAL BUILDINGS FOR COVENTRY.—The Coventry City Council were on the 29th ult. occupied for some time in discussing the scheme for new municipal buildings. The Estates Committee brought up a report recommending St. Mary's-street and Earl-street as affording the best site, and that a provisional order be applied for to carry out the work. The adoption of the report was proposed by the Mayor and seconded by Alderman Marriott, the latter being the author of the scheme. On being put to the vote, the scheme, no hint of the cost of which was given by its advocates, was approved by a large majority.

CHRISTCHURCH, HANTS.—Repairs and to some extent restorations are being carried out at Christchurch, under the supervision of Mr. E. Burton, architect, of Bournemouth. The roof over the Lady Chapel, which has been for some years in a very decayed, and in consequence dangerous, condition, has just been restored, with the adjacent stonework and the parapet wall over. There is a large room over the Lady Chapel which was formerly used as a schoolroom, and the above-mentioned roof is therein exposed to view. The roof is of very massive wrought oak, and is slightly moulded, and as nearly as possible an exact reproduction of the old roof taken down. The tie-beams are 16 in. × 14 in., and all the other timbers are correspondingly large. Great difficulty was experienced in obtaining these tie-beams without defects. The roof over the south nave aisle has also just been restored with oak, and corresponds with the old roof taken down and the new one on the north side of the church restored some years ago. Simultaneously with the restoration of the south nave aisle roof, the lath and plaster screens, put up as a protection against the cold occasioned by the bad state of the old roof, have now been removed, and the triforium is once more open. It is proposed to open the arches on the north side when funds are forthcoming.

NEW CORRIDOR AT THE BIRMINGHAM COUNCIL HOUSE.—The *Birmingham Gazette* says that the grand corridor at the Council House has now been connected with the Art Gallery by an ornamental iron corridor, which was found extremely useful at the Mayoral reception on Wednesday evening in last week. This corridor is 99 ft. long by 10 ft. 9 in. wide, and 17 ft. high from floor to highest point of roof. It is constructed of iron and glass, with lean-to roof, and is carried on two columns 34 ft. high from courtyard below, with a lattice girder, 2 ft. 10 in. deep, spanning the whole length of 99 ft. The side is formed of cast-iron stanchions and panels, with ornamental sashes glazed with double muffled glass. The roof is formed of wrought-iron rafters glazed on Helliwell's patent system. The rafters are supported by semicircular arches, filled with foliated ornament—similar to that in the industrial hall of the Art Gallery. The whole of the work has been designed and carried out by Messrs. Hart, Son, Peard, & Co., under the direction of Mr. Wheeldon, of the City Surveyor's office.

GAS OFFICES, WESTMINSTER.—The Gaslight and Coke Company are making extensive additions to their offices in Horseferry-road. The roof of the strong room is on Fawcett's fireproofing system.

MEMORIAL CHAPEL, TOTNES CEMETERY.—A memorial chapel is about to be erected in Totnes Cemetery. Mr. F. J. Reeves, of Totnes, is the architect, and Mr. J. H. Foaden, of Ashburton, is the builder.

BOARD SCHOOLS, POULTON-CUM-SEACOMBE.—The School Board of this place has decided to erect a school for 1,200 scholars. A large site has been obtained, and after an examination of six board schools by various architects the Board has selected Mr. T. Mellard Reade, of Liverpool, as the architect for the school.

DEVELOPMENT OF BARRY, SOUTH WALES.—On the occasion of the recent visit of the members of the Merthyr Chamber of Trade to Barry Dock, Mr. Lewis Lewis, estate agent, made a statement to the effect that about a quarter of a million of money was about being spent upon house property, public works, &c., in the Cadoxton and Barry district. The announcement was received with a certain amount of surprise, not to say incredulity; but after entering minutely into the details of the calculation, the *Western Mail* says that it is highly gratifying to find that the estimate is greatly under-estimated. The Local Board have already passed plans for the erection of buildings on the Brooks Estate representing 100,000*l.* in value. On Messrs. John James & Son's estate plots have been arranged for 500 houses, to cost 300*l.* each, representing another 150,000*l.* In Dockview-road and Thompson-street (Barry Dock) buildings of the value of 80,000*l.* are in course of erection or about being commenced. The Kingsland Building Company have decided to expend 27,000*l.* upon houses on their estate, and the Weston Syndicate are actually building houses to cost upwards of 20,000*l.* Mr. John James, contractor, has commenced an hotel in Weston-road which will cost fully 10,000*l.*, while plans have been passed for house property to the value of 10,000*l.* on the Mai Estate. The Holton Land and Building Company, too, are laying out the sum of 6,000*l.* upon houses on their property, while at the last meeting of the Local Board plans were submitted for the erection of 160 houses on a portion of the Wenvoe Castle Estate, representing an outlay of over 30,000*l.* Mr. Alderman John Cory, J.P., Chairman of the Local Board, has also just arranged to pay 7,500*l.* for thirty acres of land in the parish of Cadoxton for building purposes. After mentioning the main sewerage scheme, which the Local Board are carrying out at a cost of 23,000*l.*, the construction of the new graving dock at an outlay of at least 50,000*l.*, and other items, the *Barry Dock News*, summarising the various items, says:—"We have thus a clear total of half a million of money, the whole of the work in connexion with which will be in hand within the next three months."

PROPOSED NEW POST-OFFICE, BRENTWOOD.—The *Essex Chronicle* says that the plans of Mr. A. T. G. Woods have been accepted for a new post-office to be built in the High-street, at the corner of St. Thomas's-road, and Mr. Woods has been appointed architect. The building will comprise the postmaster's house, an office 21 ft. by 19 ft., a sorting-room 35 ft. by 20 ft., instrument, and other rooms.

PROPOSED NEW RAILWAY-STATION AT ABERDEEN.—On the 4th inst. the Aberdeen Town Council, on the recommendation of the Improvements Committee, agreed to entertain the revival of the question of a passenger station at Schoolhill in connexion with a proposal submitted by the Great North of Scotland Railway Company for placing a turn-table near Union Bridge.

THE PROPOSED ST. MICHAEL'S BELL TOWER, COVENTRY.—On the 1st inst., the working men's committee, which has canvassed Coventry for signatures in favour of a bell tower for St. Michael's Church, waited on Mr. George Woodcock, at the King's Head Hotel, to present the memorial to him. Mr. Woodcock has promised 5,000*l.* towards the proposed work, and the memorial of 8,500 householders was intended to give support to his advocacy of a new tower for the bells. Mr. Woodcock said Coventry would have the bell tower and as handsome a campanile as could be found either in England or on the Continent.

PROPOSED HANDEL COSSHAM MEMORIAL INSTITUTE, BRISTOL.—It has been resolved at a meeting held at Bristol to raise funds for the erection of a mechanics' institute in East Bristol, as a memorial of the late Mr. Handel Cossham, M.P.

A NEW LECTURE-HALL AT COGGESHALL, ESSEX, was opened on the 29th ult. The buildings externally are faced with yellow stock bricks, with white brick arches and bands. The work has been carried out by Messrs. Gardner & Son, builders, of Coggeshall, at a cost of about 700*l.* Mr. Charles Pertwee, of Chelmsford, was the architect.

ST. PETER'S CHURCH, BOWDON, CHESHIRE.—The Building Committee have accepted the tender of Mr. James Hamilton, contractor, Altrincham, for the erection of St. Peter's Church, Bowdon. The architects are Messrs. Tate & Popplewell, of Mosley-street, Manchester. The work is to be commenced at once and pushed on at all speed.

BOTHWELL PARISH CHURCH, N.B.—On the 3rd inst. Bothwell Parish Church was re-opened, after being closed for four months for alterations, consequent on the erection of an organ. The instrument, enclosed in an oak case, has been built by Foster & Andrews, Hull. Various structural improvements in the building have been carried out by Messrs. Bruce & Hay, architects, Glasgow. The cost of the organ and alterations, excluding personal gifts, is 1,200*l.*

SCHOOLS, BABBACOMBE, DEVON.—The corner stone of a new day-school for infants was laid at Babbacombe, South Devon, on the 2nd inst. The cost of the schools, which are being erected by Mr. Sampson Hanbury, J.P., as a memorial of his daughter, Helen Marguerite, will be 700*l.* Mr. F. Matthews, of Babbacombe, is the contractor.

PROPOSED COTTAGE HOMES AT LLANTWIT VARDRE, SOUTH WALES.—The *Western Mail* says that the Pontypridd Board of Guardians have decided to erect cottage homes for pauper children, and that with that end in view they have purchased a very eligible piece of ground in Llantwit Vardre, facing the main road from Llantrisant to Pontypridd, about ten acres in extent. After several consultations with the Local Government Board, and studying the arrangements of somewhat similar establishments elsewhere, plans have been prepared by Messrs. Seward & Thomas, of Cardiff. The contract has been let to Messrs. Turner & Sons, of Cardiff, for 7,482*l.*

NEW BUILDINGS, CHELMSFORD GRAMMAR SCHOOL.—A meeting of the Governors of the Chelmsford Grammar School was held on the 31st ult. The scheme for building on the Broomfield-road site is now well in hand, and the *Essex Chronicle* understands that the architect will be communicated with at once.

NEW COUNTY BUILDINGS FOR SURREY AT KINGSTON.—The *Surrey Comet* gives a description of the new County Buildings to be erected in St. James's-road, Kingston. The elevation will face St. James's-road. The length of the building will be about 160 ft., its depth about 130 ft. The cost of erecting the buildings is estimated at about 35,000*l.* The architect is Mr. C. H. Howell, the County Surveyor.

SHED ACCOMMODATION, &C., DUNDEE HARBOUR.—On the 31st ult., at a meeting of the Works Committee of the Dundee Harbour Board, the Engineer reported the completion of the shed erected on the north-west quay at Camperdown Dock, and recommended various improvements to facilitate the working of the traffic, including the removal of the causeway setts with which the area of the new shed is laid, and the substitution of granolithic pavement. The estimated cost of the work is 400*l.*, but the stone setts taken up will be sufficient to pave all the adjoining parts of the quay. The matter was remitted to a sub-committee, with powers.

PROPOSED NEW BOARD SCHOOL AT LARGS, N.B.—The School Board of Largs are now taking steps to procure plans of the new school, for which a site was acquired the other day in the Shotts Field, Largs. Accommodation for 700 children is to be provided, and the building will be in two stories. The total cost of erection, including boundary and division walls of play-ground, is not to exceed 5,000*l.*

THE THEATRE ROYAL, GLASGOW.—The Theatre Royal, Glasgow, was re-opened on Monday evening last, after having been internally reconstructed under the supervision of Mr. C. J. Phipps, architect, London. The gallery and the upper circle have been lowered 7 ft., and the roof brought down to a corresponding extent by the removal of the old topmost gallery, which was closed three years ago by desire of the authorities. The private boxes at the stage ends of the upper circle have been taken away, and this portion of the house has now been brought more into a horse-shoe shape than formerly. Perhaps the most important improvement has been effected in the dress-circle tier, the boxes at the rear of which have been removed, and a new part formed called the family circle. It comprises 133 half-crown seats, which can be booked beforehand. The theatre will now accommodate an audience of about 2,600 persons, 1,100 of whom can be seated in the gallery, 800 in the pit, 200 in the upper circle, 170 in the dress circle, 160 in the orchestra stalls, 133 in the family circle, and the remainder in the twelve private boxes, six of which are on each side of the stage.

SANITARY AND ENGINEERING NEWS.

HAYES DRAINAGE.—The Rural Sanitary Authority of Uxbridge Union have selected the plan submitted by Mr. F. Beesley, C.E., of Westminster, for the drainage of Hayes. The "international" process for dealing with the sewage is to be adopted, and the sludge to be dried by means of presses. According to the engineer's report, the cost of the work is estimated at 8,500*l.*, or with the outlying extensions, 10,500*l.*

A NEW DRAIN-CLEANSER.—Messrs. Merryweather & Sons, of Long-acre, have just brought out a patented drain-cleansing apparatus which they call their "Microbolizer," or "destroyer of drain poisons." We have had an opportunity of seeing the apparatus in action, and it seems calculated to be very effective in cleansing the interior surface of house drains which can readily be brought under its action. There is a great deal of force in Messrs. Merryweather's remark that "disinfectants as at present applied to drains by simply pouring them down are delusions, as the liquid simply runs down the drain, touching in its course the bottom part only." It is claimed that the "Microbolizer" is capable of pumping ten or twelve gallons per minute

of disinfecting fluid with great force over the internal surface of the pipes, removing the impure matter, and washing it away into the main sewer or cesspool. It is made entirely of copper and gun-metal, so as to be free from rust and chemical action, and is fitted with a novel form of jet distributor, with spigots which, being flexible, can be passed through any drain pipe or winding drain. Shortly described, it consists of a length of tubing having at its far end the jet distributor mentioned. The jet distributor is circular on plan, with the jet holes pierced all round it. By means of a small pump, water mixed with disinfectants is forced through this tube and through the holes in the jet distributor, the liquid being thus caused to impinge on the whole surface of the interior of the drain. Messrs. Merryweather & Sons have also, we understand, patented and are constructing a steam-worked "Microbolizer." This machine, although developing 6 indicated horse-power, is on wheels, and easily removable by one man. It is intended for operating on large sewers of any size. The hose pipes or spigots are on movable carriages inside the sewers, and the jets rotate or work in a back and forward motion, thus securing the thorough cleansing and deodorising of the whole surface of the sewer. If, however, a high pressure water service is available from a hydrant, the steam-worked "Microbolizer" may be dispensed with, and a patent and specially-constructed hydrant standpipe with a "sucker disinfectant ejector" may be used. The pressure of the water causes the disinfecting fluid to mix in the proper proportions with the water, when the operation in the sewer is the same as with the steam "Microbolizer."

STAINED GLASS AND DECORATION.

The Canterbury Music-hall, Westminster Bridge-road.—The interior of this music-hall, otherwise known as the "Canterbury Theatre of Varieties," has been entirely re-arranged and re-decorated, at a cost of 5,000*l.*, under the superintendence of Mr. F. Matcham, architect. The alterations comprise a new promenade along each side of the stalls, with fresh tiers of boxes next to the proscenium, in lieu of some private boxes removed from the sides of the balcony; the sliding roof is retained. The decorative work has been done by Messrs. Campbell Smith & Co.

The Brooke Memorial Window, Rotherham Parish Church.—On Saturday last the memorial window erected by Mr. James Brooke, of Scarborough, in memory of his wife, was unveiled. The window, which is 18 ft. 6 in. wide and 31 ft. high, is of the Perpendicular period. The central subject is illustrative of Our Lord's majesty, the lights on the right and left being representations of apostles, prophets, Virgin, holy church, and St. John the Baptist. The idea has been obtained from the "Te Deum Laudamus." The three middle lower lights are occupied by the Adoration of the Infant Christ, Virgin and Child being in the centre, and the adoring Magi and shepherds on the right and left respectively. The first (counting from the left), second, sixth, and seventh lower lights in the same division illustrate the Annunciation, the Nativity, the Baptism, and the Transfiguration of Christ, each subject having its Old Testament type below, namely, angels appearing to Abraham, the birth of Isaac, the passage of the Red Sea, and Moses descending the mountain. The upper tracery is filled with cherubims and angels, bearing scrolls, musical instruments, and emblems of the Passion. The work, which has cost over 1,000*l.*, has been executed by Messrs. Clayton & Bell, of Regent-street, London. The stonework has been placed in thorough repair under the direction of Mr. E. I. Hubbard, architect.

The Effingham Memorial Window, Whiston Church.—On the 27th ult., a new stained-glass window, being the east window of the south aisle, was unveiled in Whiston Parish Church, in memory of the second Earl of Effingham and Lady Charlotte Howard. The window has been placed there by Mrs. Wm. Howard, widow of the Hon. and Rev. Canon Howard, late rector of Whiston. It is the third largest window in the church, and contains three lights. Christ enthroned in glory is the subject illustrated at the top of the centre light; angels with emblems of the Passion are represented in the upper side-lights; below, in the centre light, are male saints, St. Jerome being conspicuous. Virgin saints are represented on the right, and widow saints on the left side. The work has been carried out by Messrs. Burlison & Grylls.

FOREIGN AND COLONIAL.

France.—The Société des Amis des Arts of Versailles has just opened its annual exhibition. This society, founded forty years ago, is one of the most important in the provinces, and the present exhibition (the thirty-seventh) includes about 800 pictures.——The curator of the museum at Cherbourg gave notice some time ago of the unaccountable disappearance of a small picture by Clovet, a portrait of a lady. This work, valued at 25,000 francs, has been found at Paris, by a painter, M. Frévet, at a carver and gilder's, in rue Taitbout, who had bought it for 40 francs from a stranger. The picture has for the present been deposited at the Direction des Beaux-Arts.——It is announced that the municipal museum at Roubaix has been transformed into a national museum, and will become an annexe to an "Ecole Nationale des Arts Industriels" which the State has founded in that town. The new museum will be inaugurated in October. The jury commissioned to examine the competition designs for a Savings Bank to be built at Troyes have unanimously awarded the first premium to M. Henry Schmidt, architect, of Paris. They have not awarded the second premium, but third premiums have been given to MM. Collier (Paris), Mony & Vermot (Troyes), and Gueyon (St. Maurice). MM. Mignan, Forest, Burgaz, Fauconnier, Mathieu, and Pergot have obtained honourable mentions. Some days ago, at a meeting held at the Mairie of Alger, it was unanimously resolved to hold a universal exhibition there. Some curious mural paintings of the seventeenth century have been recently discovered in the church of Poncé, near Le Mans.——According to the *Semaine des Constructeurs*, the Municipal Council of Paris has passed votes for the requisite sums for four new "Casernes des sapeurs-pompiers." The Council has also adopted the conclusions of the report of M. Charles Lament, in favour of mortuary depôts near the principal cemeteries, to receive the dead of poor families living in small houses, until interment. A small morgue is to be built near the Canal St. Martin, at a cost of not above 3,800 francs. The Council has adopted the "projet de délibération," presented by M. Santon, which invites the administration to examine the utility and the consequences to Paris generally of the projected railways, and the modifications which their construction would necessitate in water and gas service, drainage, &c.

Durban Waterworks Extension.—The Corporation of Durban, Natal, are taking steps to push forward with their new waterworks extension as rapidly as possible. Mr. J. Fletcher, C.E., the local Borough Surveyor of Durban, has drawn out a preliminary scheme for taking a large supply of water from the Umlaas River, in the neighbourhood of Durban. Mr. W. H. Radford, C.E., Nottingham, is the consulting engineer for the scheme, and the scheme was arranged for execution in two sections. The estimated cost of the first section was 65,767*l.*, and of the second section, 54,625*l.*, making a total of 120,392*l.* The intake for the first section will be situate on the Umlaas River, ten miles from Durban. The water will be conveyed several miles down the river in 18-in. iron pipes to the pumping-station, where a portion of the water will be utilised to work turbines, which will pump the remainder of the water to a high summit reservoir and filter-beds. From the summit reservoir and filter-beds the water will flow by gravitation through four miles of 15-in. iron pipes, delivering into three local town distributing reservoirs. When the second section is carried out, the 18-in. iron pipes will be carried eight miles farther up the river to a water intake, at a sufficiently high level to supply the town by gravitation. When the scheme is finally completed, the works will deliver 2,000,000 gallons per day. As consulting engineer, Mr. Radford designed all the details of the pipes and special castings required, and calculated all the strains and thicknesses to perform the work intended. The greater number of the pipes will be turned and bored, with a keyed space outside for lead or cement. Each casting will be tested at the iron works by hydraulic pressure to 500 and 700 ft. head respectively; for working pressures of 250 to 350 ft. All castings will be heated in stoves and dipped in Dr. Angus Smith's composition at a temperature of 300 deg. Fahr. Tenders were invited by advertisement, and there was a good competition. The Durban Corporation have let the contract to the Staveley Iron Works Co., Erewash Valley, England. The contract amount for the pipes delivered on board at an English port is 16,684*l.* The special castings are to be paid for by schedule of prices. There will be about 8,000 iron pipes in 9 by 12 ft. lengths, and weighing about 3,500 tons. The sizes of the pipes are 18 in., 15 in., 12 in., 8 in., 5 in., 4 in., and 3 in. The pipes are now being made.

The Stockholm Industrial Exhibition.—Active preparations are in progress for the industrial exhibition to be held in Stockholm in a year or two.

Statue of the Late Mr. Forster.—On the 1st inst., Viscount Cranbrook, Lord President of the Council, unveiled a statue of the late Right Hon. W. E. Forster, which has been appropriately placed in the Embankment Gardens, immediately opposite the offices of the London School Board. The statue, which is the work of Mr. H. Richard Pinker, is in bronze, and represents Mr. Forster standing in an attitude of rest in the interval of a speech. The right arm is bent behind and rests on the top of the hip towards the back; in the left hand is held a book, and the head is erect. The statue is on the scale of most of the other statues on the Thames Embankment, being about 9 ft. high, and the height of the pedestal on which it stands is about a foot less.

MISCELLANEOUS.

The Additions to Westminster Hall.—It appears that this in every sense unfortunate structure is already showing signs of decay. In reply to a question asked in the House of Commons on Tuesday night, the information was elicited from the First Commissioner of Works that,—"Some interesting stones which were taken from the old buttresses have been re-used in corresponding positions in the new buttresses, and these, having been covered up in the old buildings for many years, are, now that they are again exposed to the atmosphere, showing signs of decay on the surface, but this, after a time, will probably cease to a great extent. With respect, however, to the new stonework which has been used as a facing to the main wall in the interior of the hall, I regret to say that from some reason which cannot at present be explained certain patches of the work are undoubtedly decaying on the surface, and, strange to say, in the same places as the decay had principally occurred in the old stonework before the repairs were effected. The architect, Mr. Pearson, is quite unable to account for this mysterious decay, and assures me that the stone selected for the work (Ketton) is the best for the London atmosphere, and this opinion would appear to be borne out by its standing well on the outside of the building. It is believed that there must be some peculiarity in the mortar of those parts of the old wall where the decay is taking place." The building seems disposed in various ways to revenge itself on its originators.

Kirkstall Abbey.—The *Leeds Mercury* reports that at a meeting of the Sub Corporate Property Committee, Ald. Sir E. Gaunt in the chair, a report by Mr. J. T. Micklethwaite, of London, was read as to the result of his examination of the ruins of the Abbey, according to the instructions of the committee, and it was decided that with a view to the carrying out of the necessary works of preservation the services of an experienced clerk of works should be obtained, as recommended in the report. A letter was also read from Mr. W. H. St. John Hope, M.A., Assistant Secretary of the Society of Antiquaries, London, in which he states, "Your excavations at Kirkstall have opened up things of the greatest interest, and by the time you have done Kirkstall will certainly equal Fountains in archæological interest. When all is done I shall be glad to undertake for the Corporation a proper descriptive history of the abbey."

Federation of Carpenters and Joiners.—A conference of carpenters and joiners was held on Monday last at the "Hen and Chickens Hotel," Sheffield, for the purpose of forming a federation in connexion with this branch of industry. Representatives attended from Birmingham, Liverpool, Sheffield, Leeds, Hull, Burnley, Bury, and Newport. A scheme was drawn up and agreed upon, whereby in case of disputes any of the federated towns will immediately receive the moral and pecuniary support of the whole federation. In addition to the towns before mentioned, a number of other large towns have already signified their approval of the scheme. Birmingham was fixed as the headquarters of the federation for the coming year.

Constable's Sketches.—*The Portfolio* for August contains an interesting article by the Editor on Constable's sketches, with some facsimile reproductions giving examples of the great landscape painter's manner of rapid sketching in chalk and in brush monochrome. The value of these is as examples of methods of rapidly seizing an effect on the spot.

A New Method for Ventilating Railway-carriages, and preventing dust from entering with the air, is said to have appeared in France. The more quickly the train moves, the more rapidly the apparatus works. The air is made to traverse a receptacle containing water, which cools it and relieves it of dust, after which it goes through another filtering before entering the carriage.

Meeting of Road Surveyors in Dundee.—The sixth annual general meeting of the Road Surveyors' Association was held in the Royal Hotel, Dundee, on the 31st ult. There was a good attendance, and Mr. W. Rankin, Thornhill, presided. It was arranged that the next meeting should be held at Stirling. Mr. Alexander Hogg, Alford, was elected President, and Mr. Thomas Johnston, Hurlet, and Mr. A. B. Smith, Annan, Vice-presidents. Mr. Stevenson, Ayr, was reappointed Secretary. Mr. Hogg, Alford, read a paper on "Roads and Traffic," in which he said the road required for the traffic of our time must be stronger and more consolidated than the road of the old coaching days. It must also be smooth and clean, and to secure this the material must be from the best stone, and consolidated with heavier appliances. A road to stand locomotive or heavy traffic of any sort must be consolidated with a uniform pressure as great or greater than the traffic it has to sustain, and finished with a smooth surface which will not ruffle, so as to accommodate the passage of the tenderer class of vehicles. Ten years ago there were only one or two steam rollers in Scotland; now there are about thirty, and the number is still increasing. In many districts there would not be sufficient work in rolling alone to warrant the outlay, and the way to get over the difficulty was to combine either steam breaking or haulage, or both.

Bristol Master Builders' Association.—On the 30th ult. a large number of the members of this Association, together with several friends, made an exceedingly pleasant excusion into Monmouthshire. The party, which was composed of about sixty gentlemen, left Bristol at half-past nine, and, travelling by way of Pontypool, reached Ragland nearly an hour before noon. The thirteenth-century castle was, of course, the most attractive feature here; and, after luncheon, Mr. H. J. Spear, the Secretary of the Association, read a paper on the castle. Subsequently the party visited Tintern Abbey, and afterwards dined together at Chepstow, Mr. E. P. Hatherly in the chair.

The Society of Art Masters. — The annual meeting of this Society was opened on the 30th ult. in the Lecture Theatre, South Kensington Museum. Mr. Edward R. Taylor (Municipal School of Art, Birmingham) presided, and in his annual address referred with satisfaction to the passing of the Technical Instruction Act, 1889, suggesting, however, details in the measure susceptible of amendment. He thought it desirable that the syllabus of the Science and Art Department should include modelling in terra-cotta, painting on pottery, wood-carving, and other forms of artistic expression of a similar kind. One of the great events of the year had been the emphatic condemnation of the principle of payment by results. The Secretary then read the second annual report, which stated that the strength of the Society had been brought up to a membership of ninety-eight persons. The finances were in a satisfactory state, it being anticipated that there would be a balance in hand of about 30*l*. The report having been adopted, on the motion of Mr. Probyn, seconded by Mr. Scott, Mr. J. Nicol Smith (School of Art, Bristol) was elected President for the ensuing year. Mr. A. N. Brophy (School of Art, Limerick) was elected Vice-president, and the following gentlemen were appointed to fill the vacancies on the Council:—Mr. E. R. Taylor, Mr. Michael Sullivan, Mr. Fred Brown, and Mr. John Kemp.

Electric Lighting.—The Lord Provost's Committee of the Edinburgh Town Council have agreed to recommend that the Town Council should apply for a provisional order to enable the Council to control the electric lighting of the city.

National Portrait Gallery, Edinburgh.—The newly-built National Portrait Gallery is furnished with a number of niches, intended to be filled with statues of Scottish celebrities. This portion of the undertaking has been left to the generosity of the general public by the donor of the building, and a commencement has been made by the gift from two citizens of statues of Malcolm Canmore and his Queen, Margaret, during whose reign the authentic history of Scotland may be said to commence. The figures have been modelled respectively by Mr. John Rhind and Mr. Birnie Rhind, and have been approved of by the Board, who made it a stipulation that the works should possess high artistic merit. The figures are 6 ft. 6 in. in height, and will be placed in the upper niches on each side of the central doorway. They are to be carved in the red Corvenie stone of which the gallery is built.

Dunblane Cathedral Restoration. — The *Scotsman* reports that in the course of the restoration of this cathedral there has been found embedded in the south wall of the south aisle, and partly in the wall of the tower, just above the main door entrance in this aisle, a stone pillar. It has been taken out altogether and laid aside for further examination. The pillar measures 4 ft. long and is 18 in. in diameter. There is no trace of what it could be supporting, although its foundation was well packed. The work of restoration is making good progress, and the south aisle is nearly complete. Dr. Rowand Anderson is the architect who has the work of restoration in hand.

MEETINGS.

Saturday, August 9.

Crystal Palace School of Engineering.—Award of Certificates. Sir J. N. Douglass, F.R.S., will preside. 12 noon.

Monday, August 11.

Architectural Association.—Annual Excursion, Oxford.
Clerks of Works' Association (Carpenters' Hall).—Paper by Mr. J. Woodley. 8 p.m.

Tuesday, August 12.

Architectural Association.—Annual Excursion, Oxford (continued).
Royal Archæological Institute. — Annual Meeting, Gloucester.

Wednesday, August 13.

Architectural Association.—Annual Excursion, Oxford (continued)
Royal Archæological Institute. — Annual Meeting, Gloucester (continued).

Thursday, August 14.

Architectural Association.—Annual Excursion, Oxford (continued).
Royal Archæological Institute — Annual Meeting, Gloucester (continued).

Friday, August 15.

Architectural Association.—Annual Excursion, Oxford (continued).
Royal Archæological Institute. — Annual Meeting, Gloucester (continued).

Saturday, August 16.

Architectural Association.—Annual Excursion, Oxford (concluded).
Royal Archæological Institute. — Annual Meeting, Gloucester (continued).

RECENT PATENTS.

ABSTRACTS OF SPECIFICATIONS.

10,618.—Securing Closed Doors: *H. Atkin.*—According to this invention a metal plate is secured to the framing, and from the plate a slotted piece projects in which one end of a bolt slides. The other end of the bolt has a spring coiled round it, the spring and part of the bolt being free to move within a tube secured to the metal plate. The spring presses one end of the bolt outwards so as to project over the side, top, or bottom of the door when closed. A stud projecting from the bolt has two short chains or wire cords secured to it; the other ends of the chains or cords are passed round grooved pulleys, and each secured to cords passing through thimbles secured to the framing of a railway carriage or the walls of a room, the ends of the cord being attached to a rocking lever carrying a catch engaging in the notches of a metal quadrant. Upon the lever being pulled the bolts are withdrawn; when released the springs project the bolts and secure the doors.

11,145.—Sash Windows: *H. T. Johnson and another.*—The upper and lower sashes, which are the subject of this patent, have holes drilled through them. The outer air flows through the holes into an air-chamber, and gradually disperses and flows through other apertures and perforated sheets acting as air-diffusers. The air, broken in its course by means of the air-chamber, has a quiet flow into the room and prevents draught, the air-supply being regulated or entirely stopped by means of a sliding under-plate. The chief feature of the invention is the air-grating, for if a sliding ventilator is placed on the sash-bars without the intervention of the air-chamber then a good portion of the sash-holes would be covered and useless, unless cut in uniformity with the apertures in grating.

13,009.—Fire-resisting Walls, &c.: *J. Wilson.*—The object of this invention is to provide a method of constructing partitions, walls, &c., of buildings so that they have an extreme fire-resisting power with a minimum of weight, and also, if required, a tendency to prevent the transmission of sound. Rolled joists or girders of double T section are used, and on the planes of these, vertically and at right angles, are cut away near the ends thereof. These ends are bent or forged in the form of an L to permit of their being bolted or attached to the flanges. Connexions of flat iron are then attached, and the whole filled in, incased, or surrounded with concrete by means of the usual centreing or boarding.

17,078.—Horticultural Buildings and Tanks: *D. McKellar.*—The main supports of the buildings constructed according to this patent are hollow cast-iron columns; different lengths—long for walls and short for staging—and fitted with sockets and slots, so that all may be fitted together, and the framework of the house made.

1,151.—Window Sashes: *C. Denbigh.*—According to this invention, two sliding stiles are used, one on each side of an ordinary sash connected by a hinge screwed on to the outside of sash. The stile moves up or down, as any other sash, the hinge forming the rebate and reaching from top to bottom of stile half fixed to sash, the other half to sliding stile, allowing the sashes to turn over to be cleaned.

6,058.—Roofing-plates: *G. Scott.*—This invention relates to roofing-plates made from glass or of slag of any size and colour. Nail holes are punched in them as they are being rolled in process of manufacture, mechanism for which is described in the specification.

NEW APPLICATIONS FOR PATENTS.

July 21.—11,344, J. Bishop, Utilising Draughts of Doors and Windows for Ventilating Rooms, &c.—11,346, J. Currie and others, Joining all kinds of Pipes.—11,377, J. Merryweather, Cleansing and Disinfecting Drains, &c.

July 22.—11,425, F. Smith, Sash Fastener.—11,428, J. Lee, jun., and W. Bowers, Plugs and Shives for Washbasins, Baths, Lavatories, Sinks, &c.—11,443. A. Buecher, Making Light Bricks from Gypsum, &c.—11,446, W. Thompson, Door Bells, &c.—11,447, W. Brennan, Seals for Bolts, &c.—11,451, L. Wilks, Window Fastener.—11,479, F. Oxhwald, Improved Building Material.

July 23.—11,484, W. Hayhurst, Punching Holes in Slates.—11,493, G. Meire, Sliding Indices for Slide Rules.—11,522, J. Bayly, Construction of Dry Walls.—11,541, C. Muller, Stoves.—11,560, A. Shaaf, Drying Stoves for Bricks, &c.

July 24.—11,563, J. Birchenough, Movable Ornamental Iron Railings.—11,588, S. Hill and F. Lilley, Fastening Skylight-windows, Fanlights, &c.—11,597, J. Cawdery, Mortise Gauge for Carpenters.—11,602, G. Bischof, Whitelead.

July 26.—11,702, W. Shaw, Screw Appliance for the Sash Movement of Windows.—11,703, The Poidevin Glazing and Unglazing Tool.—11,724, G. Couch, Window-Glazing and Unglazing Tool.—11,748, G. Howe, Production of Bas-relief Ornamentation in Plastic Material, Frames, and Fittings.—11,748, G. Howe, Production of Bas-relief Ornamentation in Plastic Material, sashes, and Fittings.

PROVISIONAL SPECIFICATIONS ACCEPTED.

5,415, W. Horn, Brick-machine.—6,086, J. Ward and C. Griffith, Water Tap Filter.—8,682, G. Calvert, Chimney Pot.—9,151, W. Reynolds, Gate Hanging, applicable to Door and Window Sashes.—10,156, J. Reed, Stoves.—10,709, J. Macdonald, Fire-grates.—10,836, J. Bayly, Sign-board.—10,883, J. Lumsden, Ventilators and Chimney Cowls.—11,064, H. Lake, Hot Water Heating Apparatus.—11,089, T. Farmiloe and F. and W. Panario, Water-closet Apparatus.

COMPLETE SPECIFICATIONS ACCEPTED.

Open to Opposition for Two Months.

13,228, A. and H. Brewtnall, Gates or Doors for Lifts, &c.—14,590, H. Groves and J. Stewart, Electric Bells.—14,996, S. Ainge, Carpenter's Cramp.—14,963, H. Stanton, Fire-resisting Floors for Buildings.—15,005, C. Rabbitz, Wire Netting for Fireproof Ceilings, Walls, &c.—15,639, W. English, Warming Rooms and Buildings, &c.—18,192, J. Jones, Stoppers for Drains, &c.—18,765, G. Hall, Brickmaking Machinery.—4,066, J. Tracy, Heating or Dwellings.—8,542, H. Farmer, Self-closing Rooms or Dwellings.—9,328, W. Fairweather, Roofing or Sheathing Tiles.

SOME RECENT SALES OF PROPERTY:

ESTATE EXCHANGE REPORT.

July 24.—By *Furebrother, Ellis, & Co.* (at Sheffield): "Worksop Manor House," near Worksop, and 1,644a. 3r. 18p., f., including timber valued at 25,000*l*., 55,000*l*. Other property on the Worksop Manor Estate, viz., "Park Cottage," and 31a. 0r. 14p., f., r., 134*l*. 7s., 4,000*l*.; "Harness Grove" and "Ratcliffe Grange Farm," 226a. 1r. 32p., f., r. 243*l*. 13s. 10d., 6,750*l*.; "Burnt Leas Farm," 356a. 0r. 20p., f., r. 385*l*., 8,750*l*.; "Streetley Farm," 202a. 3r. 8p., f., r. 207*l*. 13s. 6d., 4,300*l*.; "Duinball" and "Firbeck Farms," 175a. 3r., f., r. 117*l*. 7s., 2,650*l*.; "Holme Carr" and "Darfould's Farms," 180a. 3r. 35p., f., r. 202*l*. 16s., 5,000*l*.; "Hatfield's Farm," and 80a. 3r. 36p., f., r. 85*l*., 1,950*l*.; "The Shirecoaks," f. public-house and 23a. 2r. 20p., r. 149*l*. 10s., 5,250*l*.; "Vicarage" and "Hudson's Farms," f., 156a. 1r. 2p., r. 131*l*., 2,550*l*.; "Clayland's Farm," 130a. 0r. 17p., f., r. 164*l*., 3,400*l*.; "High Grounds Farm," and 193a. 2r. 0p., f., r. 223*l*. 7s. 6d., 3,600*l*.; "Manor Lodge" and Farm, 354a. 1r. 20p., f., r. 209*l*. 17s., 5,650*l*.; "Lady Lee" and "Haggonfield's Farms," 111a. 1r. 12p., f., r. 154*l*. 16s., 3,000*l*.; "Manor Cottage," and 116a. 3r. 0p., f., r. 293*l*. 7s., 5,500*l*.; accommodation land, 40a. 3r. 27p., f., r. 79*l*. 15s., 4,000*l*.; f. building land, 31a. 3r. 37p., r. 157*l*. 8s., New-rd., 4,160*l*.; f. building land, 26a. 1r. 11p., r. 94*l*. 8s. 8d., Stubbin's-lane, 2,200*l*.; f. stabling and garden, 1a. 1r. 20p., r. 12*l*., 350*l*.

July 28.—By *C. W. Millar*: 7, Granville-rd., Sevenoaks, f., r. 60*l*. p.a., 555*l*.; 44, Hastings-st., St. Pancras, u.t. 16 yrs., g.r. 5*l*. 5s., r. 30*l*., 130*l*.—By *Jones, Lang, & Co.*: 25 to 31 (odd), Broad-st., and 2, Earl-st., Stratford-by-Bow, f., r. 129*l*., 1,500*l*.—By *Herring, Son, & Daw*: f. residence, "The Vicarage," Streatham-hill, 2,230*l*.—By *Sherrin & Coltman*: l.g.r. of 107*l*., u.t. 62 yrs., Adelaide-rd., Hampstead, 2,160*l*.; l.g.r. of 60*l*., u.t. 62 yrs., Merton-rd., 1,150*l*.

July 29.—By *D. J. Chattell*: 8 and 9, Elm-bank, Crouch-hill, u.t. 91 yrs., g.r. 12*l*. 12s., 670*l*.—By *Whittingham & Sons*: f.g.r. of 24*l*., with reversion 14 yrs., West India Dock-rd., Limehouse, 660*l*.; f.g.r. of 5*l*. 8s., with reversion in 14 yrs., Rich-st., 160*l*.; f.g.r. of 17*l*. 10s., with reversion in 14 yrs., Gun-lane, 540*l*.; f.g.r. at a peppercorn, with reversion in 14 yrs., Gun-lane, 80*l*.; 20, Rich-st., f., r. 16*l*. p.a., 230*l*.—By *F. Varley*: 81 and 97, Hanley-rd., Crouch-hill, u.t. 78 yrs., g.r. 14*l*. 14s., r. 72*l*., 655*l*.; 15, Hill-side, u.t. 84 yrs., g.r. 7*l*. 10s., r. 43*l*., 465*l*.—By *Farber, Price, & Farber*: Rent charge of 500*l*. p.a., secured on the Flixton Hall Estates, 13,500*l*.; No. 52, Warwick-sq., u.t. 40 yrs., g.r. 15*l*., 1,050*l*.; 59, Long-lane, Smithfield, "The Lamb" Public-house, f., r. 100*l*., 1,500*l*.; 7, Vere-st., Strand, f., r. 42*l*., 700*l*.; 17, Fulham-pl., Paddington, u.t. 48 yrs., g.r. 10*l*., r. 50*l*., 450*l*.; 9, Station-rd., Willesden, u.t. 87 yrs., g.r. 6*l*. 6s., r. 36*l*., 350*l*.; 2, Fern-villas, New Southgate, u.t. 90 yrs., g.r. 7*l*., r. 30*l*., 245*l*.—By *Newbon & Harding*: 56 to 59, Baring-st., Hoxton, u.t. 42 yrs., g.r. 17*l*., 950*l*.; 26 and 28, Bracklyn-st., and 29, Parr-st., u.t. 15 yrs., g.r. 7*l*., 255*l*.; 76, High-st., f., r. 50*l*., 670*l*.; 25, 27, and 29, Farrance-st., and 10 and 11, Silver-st., Limehouse, u.t. 55 yrs., g.r. 14*l*. 10s., 950*l*.; 1, Ormond-yd., Bloomsbury, f., r. 35*l*., 830*l*.; "Ingleside," Lower Fore-st., Edmonton, f., r. 65*l*., 1,030*l*.; "The Limes," Queen's-rd., f., r. 25*l*., 335*l*.; 10, Upper Park-st., Islington, u.t. 19 yrs., g.r. 5*l*., r. 36*l*., 190*l*.; l.g.r. of 20*l*., u.t. 14 yrs., g.r. 10*l*., Upper-st., 155*l*.; l.g.r. of 45*l*., u.t. 20 yrs., g.r. 2*l*., Newington-causeway, 405*l*.; f.g.r. of 14*l*., with reversion in 95 yrs., The Avenue, Hampton, 250*l*.—By *F. J. Bisley*: 9, Elgar-st., Rotherhithe, f., 300*l*.; 49, 51, and 53, Anstey-st., u.t. 28 yrs., g.r. 6*l*., r. 54*l*. 12s., 265*l*.; 15, Gomme-rd., u.t. 60 yrs., g.r. 4*l*., r. 36*l*. 8s., 325*l*.; 80 to 83, Adam-st., f., r. 67*l*. 12s., 705*l*.; 7 to 13 (odd), Clarence-st., f., r. 57*l*. 4s., 520*l*.; 9, Anstey-st., f., r. 20*l*. 16s., 150*l*.; 7 & 8, Elephant-lane, and 43, Church-st., f., r. 44*l*. 4s., 300*l*.; 155 & 157, Fort-rd., Bermondsey, f., r. 67*l*. 12s., 925*l*.; 44, Esmeralda-rd., u.t. 50 yrs., g.r. 5*l*., r. 36*l*. 8s., 320*l*.; 84, Jamaica-rd., u.t. 12 yrs., r. 17*l*., 50*l*.; 17, Henwood-rd., u.t. 60 yrs., g.r. 4*l*., r. 28*l*. 12s., 260*l*.; 56, Ormside-st., Hatcham, f., r. 20*l*. 16s., 185*l*.—By *L. Farmer*: 3, St. Mary's-rd., Bayswater, u.t. 74 yrs., g.r. 9*l*., 250*l*.; 221 to 231 (odd), Well-st., Hackney, u.t. 54 yrs., g.r. 20*l*., 2,705*l*.; 33, Ellen-st., Whitechapel, f., r. 31*l*. 4s., 285*l*.; 32, Everard-st., Commercial-rd., E., f., r. 27*l*. 6s., 245*l*.; 28 & 30, Umberston-st., f., r. 62*l*. 8s., 450*l*.—By *Debenham, Tewson, & Co.*: Nos. 69 and 69a, Lincoln's Inn-fields, f., area 4,500 ft., 4,350*l*.; "The Moat," Cowden, Kent, and 85a. 1r. 24p., f., 4,000*l*.; f. accommodation land, 18a. 2r. 12p., 1,150*l*.; enclosures of f. land, 24a. 3r. 29p., 660*l*.; 1, 2, and 3, Woodville-ter., Bracknell, f., r. 47*l*., 570*l*.

July 30.—By *E. Millard*: Tanner's Farm, Marden, Kent, 329a. 0r. 18p., f., r. 200*l*., 6,700*l*.; 134 and 136, Hertford-rd., Kingsland, u.t. 12 yrs., g.r. 8*l*., 260*l*.; 30, Maury-rd., Hackney, u.t. 36 yrs., g.r. 6*l*. 10s., r. 34*l*., 300*l*.; 12, 14, and 16, Rushton-st., Hoxton, u.t. 24 yrs., g.r. 26*l*., r. 93*l*. 12s., 230*l*.—By *Phillips, Lea, & Davies*: 1 to 4, Laurel-pl., Upper Tooting, u.t. 52 yrs., g.r. 20*l*., r. 140*l*., 1,570*l*.; 51, London-rd., Clapton, f., 500*l*.—By *E. Holsworth*: 9, Nelson-ter., Haggerston, u.t. 49 yrs., g.r. 4*l*., 235*l*.; 10, Esmeralda-rd., Bermondsey, u.t. 47 yrs., g.r. 5*l*., r. 32*l*. 10s., 235*l*.; 47, 49, and 51, Ufton-rd., Kingsland, u.t. 30 yrs., g.r. 13*l*., 470*l*.—By *Driver & Perfect*: 1 to 15, Aberdeen-pl., Islington, u.t. 60 yrs., g.r. 22*l*., 1,300*l*.—By *J. A. & W. Tharp*: 3, Prince's-st., Spitalfields, u.t. 12½ yrs., g.r. 75*l*., 200*l*.; 27, Gun-st., f., r. 68*l*. 18s., 550*l*.; six plots of freehold land, Longfellow-rd., Cheam, 120*l*.; 1 to 4, Rosedale-ter., Leytonstone, f., r. 93*l*. 12s., 800*l*.; 1 to 4, Saunder's-ter., f., r. 104*l*., 880*l*.; 5, 6, and 7, Saunder's-ter., f., r. 92*l*., 760*l*.; 27 to 41 (odd), Morgan-st., Bow, u.t. 12 yrs., g.r. 31*l*. 10s., 765*l*.; 26 to 34 (even), Half Nichol-st., Bethnal-green, f., area 2,800 ft., 350*l*.; 24, Half Nichol-st., f., beer-house, r. 55*l*. 6s., 375*l*.; 181, Hanbury-st., Mile-end, u.t. 23 yrs., g.r. 20*l*., r. 54*l*., 405*l*.—By *Inman & Co.*: 7, Lanark-mews, Maida Vale, u.t. 56 yrs., g.r. 4*l*., r. 30*l*., 230*l*.—By *Rogers, Chapman, & Thomas*: 13, Fopstone-rd., Kensington, u.t. 83 yrs., g.r. 13*l*. 10s., 860*l*.; 4, Moreton-ter., u.t. 83 yrs., g.r. 20*l*., r. 220*l*., 3,260*l*.; a Redeemed Land Tax of 4*l*. 12s. 7d., Long Acre, 122*l*.—By *Rutley, Son, & Vine*: 137, Carlton-rd., Kentish Town, u.t. 66 yrs., g.r. 6*l*. 6s., r. 36*l*., 280*l*.; 39, Dickenson-st., u.t. 77 yrs., g.r. 6*l*., 200*l*.; 12, 12a, 14, and 14a, Kentish Town-rd., West Ham, u.t. 62 yrs., g.r. 37*l*. 10s., r. 135*l*., 725*l*.—By *W. Wingham*: 28 to 38 (even), Catherine-st., West Ham, u.t. 67 yrs., g.r. 21*l*., r. 132*l*., 700*l*.

July 31.—By *R. W. Scobell*: f.g.r. of 72*l*., with reversion in 74 yrs., The Grove, Ealing, 1,805; f.g.r. of 32*l*., with reversion in 76 yrs., Manley-ter., 750*l*.—By *A.*

Richards: "The Anchorage," Billet-lane, Walthamstow, f., r. 38*l.*, 350*l.*; "Elm Lodge," f., r. 21*l.*, 230*l.*; 23, Kentish Town-rd., Camden-rd., u.t. 39 yrs., g.r. 5*l.* 5s., r. 45*l.*, 305*l.*; 10, Provost-rd., Haverstock-hill, u.t. 53 yrs., g.r. 5*l.*, 450*l.*; By *Weatherall & Green:* 19, Lichfield-rd., Mile End, u.t. 51 yrs., g.r. 1s., r. 30*l.*, 385*l.*—By *Thompson & Co.:* "Fursdon Farm," near Okehampton, Devon, and 256a. 2r. 16p., 3,600*l.*; "Shortridge Farm," near Yeoford, 93a. 1r. 13p., f., r. 50*l.*, 1,025*l.*; "East Church Farm," 169a. 2r. 11p., f., 1,850*l.*; "Little East Church Farm," 17a. 0r. 1p., f., 360*l.*; "Higher Dornaford Farm," near Okehampton, 135a 1r. 35p., f., 910*l.*—By *Wood & Kirby:* 19 to 24, Lower Richmond-rd., Romford, u.t. 90 yrs., g.r. 23*l.*, 60*l.*—By *R. Tidey & Son:* 1 and 11, Thorpedale-rd., Holloway, u.t., 80 yrs., g.r. 8*l.*, r. 65*l.*, 395*l.*; 2 and 3, Derby-rd., Kingsland, u.t. 28 yrs., g.r. 9*l.*, 220*l.*—By *Newbon & Harding:* 49, Colebrooke-row, Islington, f., 875*l.*; 8 to 19, Dunston-rd., Kingsland, u.t. 29 yrs., g.r. 20*l.*, 900*l.*; 19, 21, and 23, Arvon-rd., Highbury, u.t. 95 yrs., g.r. 25*l.*, r. 120*l.*, 945*l.*; 25, 27, and 33, Arvon-rd., u.t. 95 yrs., g.r. 25*l.*, r. 120*l.*, 945*l.*; f.g.r. of 20*l.*, with reversion in 90 yrs., Pedro-st., Clapton, 405*l.*; 20, Medina-rd., Holloway, u.t. 70 yrs., g.r. 4*l.* 10s., 305*l.*; 21, Wilton-sq., Hoxton, u.t. 35 yrs., g.r. 4*l.* 4s., r. 34*l.*, 250*l.*—By *E. Stimson:* 249, Brixton-rd., Brixton, u.t., 52 yrs., gr. 10*l.*, r. 70*l.*, 590*l.*; "The Wrotham Arms Hotel," Broadstairs, u.t., 77 yrs., g.r. 10*l.*, r. 80*l.*, 800*l.*; 48, Chapel-rd., Norwood, u.t. 24 yrs., g.r. 11*l.*, r. 31*l.* 4s., 65*l.*; 1 to 7, "Rose Cottages," u.t. 24 yrs., g.r. 24*l.*, 425*l.*; No. 33, the lease and goodwill of a beerhouse, Bishopsgate-st. Without, 310*l.*; 64, The Grove, Lambeth, u.t. 60 yrs., g.r. 7*l.*, 400*l.*; 5, 6, 13, and 14, Tenison-rd., u.t. 32 yrs., g.r. 30*l.*, r. 180*l.*, 1,570*l.*; 20 and 21, Sutton-st., u.t. 2 yrs., g.r. 12*l.*, r. 86*l.*, 57*l.*; 10, Manner's-st., u.t. 4 yrs., g.r. 5*l.*, r. 26*l.*, 40*l.*—By *Debenham, Tewson & Co.:* the residence called "Chambery," Hampton, f., 290*l.*; f.g.r. of 40*l.*, with reversion in 90 yrs., Avenue-rd., Cheam 900*l.*; f.g.r. of 12*l.* 12s., with reversion in 16 yrs., 320*l.*—By *Harman Bros.:* 71, 73, and 77, Tyrwhitt-rd., Lewisham, u.t. 82 yrs., g.r. 25*l.* 4s., r. 165*l.*, 1,650*l.*; 16, Scarborough-rd., Holloway, u.t. 86 yrs., g.r. 7*l.*, r. 38*l.*, 375*l.*; 74, Upper Tollington-pk., u.t. 86 yrs., g.r. 10*l.*, r. 60*l.*, 600*l.*—By *Worsford & Hayward* (at Dover): 19, Beach-st., 7, 8, and 10, Middle-row, 16, Seven Star-st., 5 to 8, Pumis-hill, and 138, Clarendon-pl., Dover, f., 1,470*l.*; nine leasehold houses in Oxendon-st., Lime Kiln-st., Bulwark-lane, Oxendon-lane, Paradise-st., and Round Tower-lane, 462*l.*; f. cottage and 2 acres, River, near Dover, 430*l.*

August 1.—By *H. Newson:* i.g.r. of 62*l.*, u.t. 16 yrs., g.r. 15*l.*, Euston-road, 405*l.*; i.g.r. of 71*l.* 8s., u.t. 16 yrs., g.r. 20*l.*, Mabledon-pl., Burton-cres., 440*l.*—By *Toplis & Harding:* 1 to 23 (odd), Newman-st., Battersea, u.t. 56 yrs., g.r. 60*l.*, 1,400*l.*; 39, Bramah-rd., Brixton, u.t. 73 yrs, g.r. 5*l.* 5s., r. 30*l.*, 300*l.*—By *J. H. Bethel:* f. land, 4 a., Barking-rd., West Ham, 1,850*l.*; f. land, 1a. 3r. 35p., Regent's-lane, Custom-house, 1,100*l.*—By *A. Williams:* enclosures of f. land, 78a. 0r. 21p., Binsted, Hants, 2,885*l.*; enclosures of meadow-land, 11a. 3r. 3p., f., 950*l.*

[*Contractions used in these lists.*—F.g.r. for freehold ground-rent; l.g.r. for leasehold ground-rent; i.g.r. for improved ground-rent; g.r. for ground-rent; r. for rent; f. for freehold; c. for copyhold; l. for leasehold; e.r. for estimated rental; u.t. for unexpired term; p.a. for per annum; yrs. for years; st. for street; rd. for road; sq. for square; pl. for place; ter. for terrace; cres. for crescent; yd. for yard, &c.]

PRICES CURRENT OF MATERIALS.

TIMBER.	£. s. d.	£. s. d.
Greenheart, B.G. ....ton	6 10 0	7 10 0
Teak, E.I. ....load	11 0 0	14 0 0
Sequoia, U.S. ....foot cube	0 2 3	0 3 0
Ash, Canada ....load	3 0 0	4 10 0
Birch ,, ...	3 0 0	5 0 0
Elm ,, ...	3 10 0	4 15 0
Fir, Dantzic, &c.	1 15 0	3 10 0
Oak ,, ...	2 10 0	4 10 0
Canada	5 10 0	6 10 0
Pine, Canada red	2 10 0	3 10 0
,, yellow	2 0 0	5 5 0
Lath, Dantzic ....fathom	5 0 0	6 0 0
St. Petersburg	5 0 0	7 0 0
Wainscot, Riga, &c. ....log	0 0 0	0 0 0
Deals, Finland, 2nd and 1st. std.		
100	7 15 0	10 0 0
,, ,, 4th and 3rd	7 0 0	7 10 0
Riga	6 0 0	8 10 0
St. Petersburg, 1st yellow	9 10 0	14 10 0
,, 2nd ,, ...	7 10 0	9 0 0
,, white	7 0 0	10 0 0
Swedish	7 0 0	15 0 0
White Sea	8 0 0	17 0 0
Canada, Pine, 1st	15 0 0	26 0 0
,, ,, 2nd	10 0 0	16 10 0
,, ,, 3rd, &c.	7 0 0	10 0 0
,, Spruce, 1st	8 15 0	11 0 0
,, ,, 2nd and 2nd ..	6 10 0	8 10 0
New Brunswick, &c.	6 0 0	8 0 0
Battens, all kinds	5 0 0	16 0 0
Flooring Boards, sq., 1 in., prepared, First	0 10 0	0 14 0
Second	0 8 0	0 10 6
Other qualities	0 6 0	0 7 9
Cedar, Cuba ....foot	0 0 4	0 0 4½
Honduras, &c.	0 0 4	0 0 4½
Mahogany, Cuba	0 0 4½	0 0 6½
St. Domingo, cargo average ..	0 0 5	0 0 6½
Mexican ,, ...	0 0 4½	0 0 5½
Tobasco ,, ...	0 0 5½	0 0 6½
Honduras ,, ...	0 0 5	0 0 6½
Box, Turkey ....ton	5 0 0	12 0 0
Rose, Rio	14 0 0	19 0 0
Bahia	12 0 0	18 0 0
Satin, St. Domingo ....foot	0 0 6	0 1 3
Porto Rico	0 0 9	0 1 3
Walnut, Italian	0 0 4	0 0 7

METALS.		
IRON—Bar, Welsh, in London tn	6 10 0	6 17 6
,, ,, at works in Wales	6 0 0	6 10 0
,, Staffordshire, in London ..	7 0 0	8 0 0
COPPER—British, cake and ingot	62 0 0	62 10 0
Best selected	64 10 0	65 0 0
Sheets, strong	71 0 0	0 0 0
Chili, bars	57 10 0	0 0 0
YELLOW METAL ....lb.	0 0 6½	0 0 6½
LEAD—Pig, Spanish ....ton	12 17 6	13 0 0

METALS *(continued).*	£. s. d.	£. s. d.
LEAD *(cont.)*—		
English, com. brands	13 0 0	0 0 0
Sheet, English, 3 lbs. per square foot and upwards....	15 0 0	0 0 0
Pipe	15 10 0	0 0 0
TIN—		
Straits	94 10 0	0 0 0
Australian	94 15 0	0 0 0
English Ingots	98 0 0	0 0 0
OILS.		
Linseed ....ton	23 17 6	24 5 0
Cocoanut, Cochin	33 0 0	0 0 0
Cocoanut, Ceylon	28 15 0	29 0 0
Palm, Lagos	26 0 0	26 10 0
Rapeseed, English pale	30 0 0	30 5 0
,, brown	28 10 0	0 0 0
Cottonseed, refined	21 5 0	0 0 0
Tallow and Oleine	21 0 0	40 0 0
Lubricating, U.S.	5 10 0	6 0 0
,, refined	7 0 0	12 0 0
TAR—Stockholm ....barrel	0 18 0	0 0 0
Archangel	0 14 0	0 0 0

TENDERS.

[Communications for insertion under this heading must reach us *not later than* 12 *noon on Thursdays.*]

ASHTON-UNDER-LYNE. — For the erection of a Methodist New Connexion Mission School. Mr. J. H. Burton, architect, Ashton-under-Lyne :—

R. Whitell, Manchester	£1,440 0 0
Garside, Barnes, & Co., Stalybridge	1,374 10 0
Jos. Davison, Manchester	1,370 0 0
Jos. Taylor, Dukinfield	1,341 0 0
Allen Holmes, Ashton-under-Lyne	1,340 0 0
Jabez Gibson & Son, Dukinfield ..	1,309 0 0
J. W. Williamson, Ashton-under-Lyne	1,276 0 0
Fitton & Bowness, Ashton-under-Lyne	1,250 0 0
Underwood & Bros., Dukinfield ..	1,244 12 6
Henry Gardner, Ashton-under-Lyne	1,230 0 0
Jno. Robinson*	1,228 0 0

*Accepted subject to certain alterations.

BOSTON (Lincolnshire).— For erecting two pairs of semi-detached villa residences, for Mr. Barwick. Mr. Jas. Rowell, architect, Boston :—

Bricklayer's, Mason's, Slater's, and Plasterer's Work.

J. Handley	£870 0 0
W. Greenfield	819 0 0
H. W. Parker (accepted)	800 0 0

Carpenter's Work.

W. & H. Hinds	£470 0 0
C. Jessop	455 0 0
J. Leafe	410 0 0
Hill & Sons (accepted)	310 0 0

[All of Boston.]

BRENTFORD.—For erecting fire-escape protection, &c., at "The Cage," for the Brentford Local Board. Mr. J. H. Strachan, Surveyor :—

W. F. Wickenden, Brentford	£137 16 8
Jas. Barnes, Brentford	120 9 0
W. Barrett, Brentford*	115 3 0
Surveyor's estimates	119 10 0

* Accepted.

CINDERFORD (Gloucestershire).—For draining and making-up streets at Flaxley Mesne, Cinderford, for the Westbury-on-Severn Union Rural Sanitary Authority. Mr. Wm. Spence, Surveyor, Cinderford, Newnham :—

Sanitary and Economic Association, Limited, Gloucester	£2,304 17 7
J. Coleman, Chaxhill	1,777 0 0
Jas. Dickson, St. Albans	1,470 0 0
S. Ambrose, Bath	1,360 0 0
L. Wilce, Cinderford (accepted) ..	1,350 0 0

CROYDON.—For works at Bramley Hill-side, South Croydon, for Mr. T. Fickus :—

T. Potterton (accepted)	£772 0 0

[No competition.]

DURHAM.—For re-building property in North-road, Durham, for Mr. J. L. Wharton, M.P. Mr. Wm. Fox, architect, Durham :—

Gradon & Son	£700 0 0
Walton	687 0 0
Mowbray Brothers (accepted)	643 0 0
Gibson	642 0 0

[All of Durham.]

EGHAM.—For additions to schools, Egham, for the Trustees of the Schools. Mr. A. G. Hutchin, Clerk to the Trustees :—

S. Collar, Ashford	£376 0 0
C. Searle, Egham	219 6 0
C. Oades, Egham (accepted)	215 0 0

GATESHEAD.—For sewer, paving, cement, &c., Claremont South-avenue, Gateshead, for the Gateshead Corporation. Mr. J. Bower, C.E., Borough Surveyor, Town Hall, Gateshead :—

Paving.

G. Smith, Newcastle	£213 0 0
W. Lawton, Tynemouth	211 0 0
J. T. Simpson, Newcastle	201 0 0
G. Maughan, Jarrow	188 0 0
J. Wardlaw, Gateshead	181 0 0
W. Cumming, Gateshead (accepted)	176 0 0

Cementing.

T. Rule, jun., Gateshead (accepted)	82 0 0

GREAT DUNMOW (Essex). — For alterations to County Police-station, Great Dunmow, for the Standing Joint Committee of the Essex Court of Quarter Sessions and the Essex County Council. Mr. Henry Stock, County Surveyor, 9, Denman-street, London Bridge, S.E. :—

A. Ansell, Hatfield, Broad Oak	£639 0 0
H. Champness, Bishop Stortford	620 0 0
J. Pepper, Dunmow (accepted)	590 0 0

GLOUCESTER.—For additions and alterations to Police-court, Lawford's Gate, Gloucester. Mr. Robt. Phillips, County Surveyor, Shirehall, Gloucester :—

G. Humphreys, Stapleton-road	£236 0 0
C. J. King, Retton	245 0 0
Edwin Clark, Fishponds (accepted)..	240 0 0

GUERNSEY.—For erecting new premises, including arrangements for water supply, for the Capital and Counties Bank, Limited. Messrs. Kidner & Berry, architects, 23, Old Broad-street, London, E.C. :—

E. A. de Putron, Guernsey	£5,189 12 3
G. F. Peek, Guernsey	4,872 0 0
Woodford & Harris, Jersey*	4,549 0 0

* Accepted.

HASTINGS.—For lining and covering two reservoirs, and alterations to two filter-beds, &c., at the waterworks, Halton, Hastings, for the Hastings Corporation. Mr. P. H. Palmer, Engineer, Town Hall, Hastings :—

P. Jenkins, Hastings (accepted) ..	£2,549 0 0

HINCKLEY.—For the supply of granite road-metal at Hinckley, for the Hinckley Local Board. Mr. W. W. Cooper, Surveyor, Public Offices, Hinckley :—

	delivered at the station. s. d.	
Mount Sorrel Granite Co., Ld., Loughborough*	6 6	broken granite.
	3 6	chippings.
	delivered on roads.	
Enderby & Stoney Stanton Granite Co., Narborough	3 6	broken granite.
	3 6	chippings.

* Accepted.

KINGSWINFORD.—For building class-room to Board School, Kingswinford, Staffordshire. Messrs. Rollinson & Beckley, architects, High-street, Brierley Hill :—

Saml. Cook, Brierley Hill	£369 0 0
Hemmingway & Whittaker, Brierley Hill	330 0 0
H. & F. Smith, Netherton	285 5 11½
John Bishop, Brierley Hill (accepted)	282 17 0

LONDON.—For iron staircase as a fire precaution to the children's block at the Gordon-road Workhouse, Peckham, for the Camberwell Board of Guardians. Mr. R. P. Whellock, architect, 45, Finsbury-pavement, E.C. :—

G Smith & Co., Sun Foundry, Glasgow	£270 0 0
Young & Co., Eccleston Iron Works, S.W.	220 0 0
Badham & Co., Featherstone Buildings, W.C.	176 0 0
Clarke & Sons, Moorgate-street, E.C.	169 0 0
Robt. Crane, Binfield-road, Clapham, S.W.	160 0 0
Constructional Ironwork Co., Dace-road, Bow, E. (accepted)	149 10 0
Wheeler & Co., Cresent Works, Nunhead, S.E.	95 10 0
Steven Bros., Upper Thames-street, E.C. (informal)	82 5 0
St. Pancras Ironwork Co., London (informal)	78 0 0

[Architect's approximate estimate, £150.]

LONDON.—For the erection of a double cookery centre on the Haselrigge-road Site, Clapham, and for providing an entrance for the Boys' Department in Kenwyn-road, for the School Board for London. Mr. T. J. Bailey, Architect :—

		If brickwork in cement—add	
J. Mowlem & Co....	£1,373 0 0	.. £24 0 0	
Staines & Son	1,164 0 0	.. 33 0 0	
Dove Bros.	1,145 0 0	.. 28 0 0	
S. & W. Pattinson ..	1,137 0 0	.. 30 0 0	
Killby & Gayford ..	1,129 0 0	.. 30 0 0	
E. Lawrance & Son..	1,108 0 0	.. 28 0 0	
G. S. S. Williams & Son	1,105 0 0	.. 25 0 0	
B. E. Nightingale ..	1,053 0 0*	.. 28 0 0*	

*Recommended by the Works Committee for acceptance.

LONDON.—For the erection of a school to provide accommodation for 1,000 children, on the site in Ivydale-road, Nunhead, and for the erection of a schoolkeeper's house, with a technical classroom underneath, for the School Board for London. Mr. T. J. Bailey, Architect :—

		If brickwork in cement—add	
W. Goodman	£23,659 0 0	.. £520 0 0	
Colls & Son	23,071 0 0	.. 480 0 0	
Dove Bros.	22,803 0 0	.. 493 0 0	
S. & W. Pattinson	22,454 0 0	.. 428 0 0	
E. Lawrance & Sons	22,064 0 0*	.. 486 0 0*	
B. E. Nightingale†	20,327 0 0	.. 537 0 0	

*Recommended by the Works Committee for acceptance.

† Withdrawn on account of error in estimate.

LONDON.—For the erection of a school to provide accommodation for 1,000 children on the site in Churchstreet, Stoke Newington, and for the erection of a schoolkeeper's house, with a single cookery centre underneath, for the School Board for London. Mr. T. J. Bailey, Architect :—

		If brickwork in cement—add	
W. Goodman	£23,556 0 0	.. £390 0 0	
Dove Brothers	23,410 0 0	.. 260 0 0	
G. S. S. Williams & Son	22,484 0 0	.. 372 0 0	
Killby & Gayford..	22,330 0 0	.. 355 0 0	
S. & W. Pattinson	22,286 0 0	.. 235 0 0	
Charles Cox	21,643 0 0*	.. 352 0 0*	

*Recommended by the Works Committee for acceptance.

COMPETITIONS, CONTRACTS, AND PUBLIC APPOINTMENTS.

COMPETITIONS.

Nature of Work.	By whom Advertised	Premium.	Designs to be delivered.
*Swimming Bath	Hackney Union	Not stated	Aug. 13
*Municipal Lodging House	London C. C.	100l.	Nov. 15

CONTRACTS.

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
Paving Sets, Iron Castings, Earthenware Pipes, &c.	Dewsbury Corporation	Henry Marks	Aug. 11
*Pipe Sewers, &c.	East Ham Local Board	W. H. Savage	Aug. 12
Road Works, Drainage, &c.	Carlton (Nottingham) Local Board	R. Whitbread	do.
Hospital Ward	Cardiff Corporation	W. Harpur	do.
Dwelling-house, Carlinghow, Batley		W. Hanstock	Aug. 13
Works at Ratoath Church, Dublin	Rev. J. Fulham	Wm. H. Byrne	Aug. 14
Alterations to Public School, Elgin, N.B		A. & W. Reid	Aug. 15
*Boundary Wall, Drainage, &c.	St. George-in-the-East Guardians	Wilson, Son, & Aldwinckle	do.
New Police Station, Murton, Durham	Standing Joint Com.	Wm. Crozier, C.E.	Aug. 16
New Sewers and Outfall Works	Workington U.S.A.	Wm. L. Eaglesfield	do.
Road Metal, Cartage, and Paving	Durham County Coun.	*Official*	do.
Cast-iron Pipes (370 tons), &c.	Stainland (Halifax) Local Board	G. & G. H. Crowther	do.
*Supply of Building Materials, Canterbury	Commrs. of Prisons	*Official*	do.
New Entrance Gates, &c.	Leeds Corporation	Mr Smith	Aug. 18
*"Apron" to Sea Wall	Scarborough Corp.	*Official*	do.
Schools, Kinson Village	Kinson (Wimborne) School Board	Lawson & Donkin	do.
Additions, &c. to Guildhall, Plymouth		Hine & Odgers	do.
Drainage Works, Fittings, &c.	Brackley Guardians	*Official*	Aug. 19
*Foundations for Refuse Destructor	Bath U.S.A.	F. Ashmead	Aug. 20
*New Schools	Coventry School Bd.	G. & J. Steane	Aug. 21

CONTRACTS.—*Continued.*

Nature of Work or Materials.	By whom Required.	Architect, Surveyor, or Engineer.	Tenders to be delivered.
*Sewering Roads, Dartford	Kent & Essex Land Co. Limited	G. R. Cobham	Aug. 11
New Quay in Inner Harbour	Stornoway Pier, &c. Commission	Alex. Macdonald, C.E.	do.
Tenements	Magistrates & Council of Glasgow		do.
Alterations to Workhouse	Newcastle-upon-Tyne Guardians	W. H. Dunn	Aug. 22
*Erection of Board School	Reading School Board	S. S. Stallwood	Aug. 26
*Brick and Pipe Sewers, &c.	Epsom Local Board	*Official*	Sept. 1
*Supplying Gravel	Croydon Corporation	W. Powell	Sept. 9
Excavations and Building a Culvert	Kington (Herefordshire) Highway Bd.	*Official*	No date
Business Premises, Stafford	Brookfield & Windows	Geo. Wormal	do.
Alterations, &c. to Inn, Stafford	J. F. & H. S. Humby	do.	do.
23 Cottages, Mardy Rhondda Fach		Wm. Thomas	do.
Alterations, &c. to Church, Glasgow	Rev. D. E. Key		do.
Works, Barningham Church, nr. Barnard Castle		J. P. Pritchett	do.
Sinking a Shaft (60 fathoms)	Elswick (Newcastle) Coal Co.		do.

PUBLIC APPOINTMENTS.

Nature of Appointment.	By whom Advertised.	Salary	Applications to be in
*Clerk of Works	Willesden Local Board	4 Guineas	Aug. 12
*Borough Surveyor's Assistant	Walsall Corporation	104l.	Aug. 16
*Draughtsman (Engineering)	Civil Service Commrs.	Not stated	Aug. 26
*Clerk and Draughtsman (Surveying)	do.	do.	Aug. 29
*Superintendent of Interception Dept.	Birmingham Corp.	200l.	Aug. 30

Those marked with an Asterisk (*) are advertised in this Number. Competitions, p. iv. Contracts, pp iv. and vi. Public Appointments, xviii.

LONDON.—For removing the two iron buildings at present on the Halford-road site, Walham-green, and also one iron building from the Langford-road site, Fulham, and for re-erecting them on the Lillie-road site, North End-road, Fulham, for the School Board for London. Mr. T. J. Bailey, Architect :—

J. Humphreys	£700 0 0
Norris & Luke	645 0 0
Cowley & Drake	595 0 0
J. Derry	580 0 0
G. H. Sealy	525 0 0
T. Cruwys	450 0 0
Croggon & Co.	445 0 0
Simmonds Bros.	425 0 0
J. J. Richards*	360 0 0

* Recommended by the Works Committee for acceptance.

LONDON.—For erecting a single cookery centre on the Latimer-road site, Notting Hill, for the School Board for London. Mr. T. J. Bailey, Architect :—

		If brickwork in cement, add
J. Mowlem & Co.	£719 0 0	£10 0 0
W. Goodman	707 0 0	16 0 0
Killby & Gayford	675 0 0	13 0 0
Dove Bros.	661 0 0	12 0 0
Staines & Son	649 0 0	13 0 0
E. Lawrance & Sons	649 0 0	12 0 0
G. S. S. Williams & Son	633 0 0	18 0 0
S. & W. Pattinson	631 0 0	12 0 0
B. E. Nightingale	598 0 0*	12 0 0*

*Recommended by the Works Committee for acceptance.

LONDON.—For erecting a single cookery centre on the Sydney-road site, Homerton, for the School Board for London. Mr. T. J. Bailey, Architect :—

		If brickwork in cement, add
W. Goodman	£746 0 0	£18 10 0
Killby & Gayford	725 0 0	—
J. Mowlem & Co.	715 0 0	10 0 0
Dove Bros.	713 0 0	12 0 0
E. Lawrance & Sons	699 0 0	12 0 0
Staines & Sons	686 0 0	13 0 0
Chas. Cox	683 0 0	13 0 0
G. S. S. Williams & Son	673 0 0	18 0 0
B. E. Nightingale	660 0 0	12 0 0
S. & W. Pattinson	659 0 0*	12 0 0*

*Recommended by the Works Committee for acceptance.

LONDON.—For the erection of a single cookery centre on the Hackford-road site, Brixton, for the School Board for London. Mr. T. J. Bailey, Architect :—

		If brickwork in cement, add
J. Mowlem, & Co.	£742 0 0	£10 0 0
W. Goodman	739 0 0	19 10 0
Killby & Gayford	709 0 0	13 0 0
Dove, Bros.	698 0 0	12 0 0
E. Lawrance & Sons	679 0 0	12 0 0
G. S. S. Williams & Son	661 0 0	18 0 0
Staines & Son	659 0 0	13 0 0
S. & W. Pattinson	650 0 0	12 0 0
B. E. Nightingale	610 0 0*	12 0 0*

*Recommended by the Works Committee for acceptance.

LONDON.—For erecting a single cookery centre on the Cobourg-road site, Old Kent-road, for the School Board for London. Mr. T. J. Bailey, Architect :—

		If brickwork in cement, add
W. Goodman	£806 0 0	£18 10 0
J. Mowlem & Co.	754 0 0	10 0 0
Killby & Gayford	720 0 0	13 0 0
Dove Bros.	707 0 0	12 0 0
E. Lawrance & Sons	696 0 0	12 0 0
G. S. S. Williams & Son	684 0 0	18 0 0
Staines & Son	684 0 0	13 0 0
S. & W. Pattinson	665 0 0	12 0 0
B. E. Nightingale	640 0 0*	12 0 0*

*Recommended by the Works Committee for acceptance.

LONDON.—For the enlargement of the Purrett-road school, Plumstead, by 200 places, for the School Board for London. Mr. T. J. Bailey, Architect :—

		If brickwork in cement, add
W. L. Kellaway	£1,705 0 0	£25 0 0
W. Downs	1,618 0 0	25 0 0
Holloway Bros.	1,615 0 0	25 0 0
Dove Bros.	1,614 0 0	22 0 0
Lathey Bros.	1,608 0 0	26 0 0
J. Grover & Son	1,602 0 0	20 0 0
Killby & Gayford	1,592 0 0	23 0 0
J. Mowlem & Co.	1,557 0 0	22 0 0
B. E. Nightingale	1,331 0 0	30 0 0
W. H. Lorden & Son	1,326 0 0*	25 0 0*

*Recommended by the Works Committee for acceptance.

LONDON.—For the erection of Divisional Offices on the site at the corner of Greenwich-road and Blackheath-road, for the School Board for London. Mr. T. J. Bailey, Architect :—

		If brickwork in cement, add
Killby & Gayford	£3,085 0 0	£35 0 0
J. Derry	3,084 0 0	69 0 0
Lathey Bros.	3,046 0 0	37 0 0
W. Downs	3,038 0 0	40 0 0
J. Mowlem & Co.	2,997 0 0	36 0 0
B. E. Nightingale	2,639 0 0	47 0 0
W. H. Lorden & Son.	2,525 0 0*	44 0 0*

*Recommended by the Works Committee for acceptance.

LONDON.—For the enlargement of the Pocock-street School, Blackfriars-road, by 400 places, and for reconstructing a portion of the drainage, for the School Board for London. Mr. T. J. Bailey, Architect :—

		If brickwork in cement, add
J. Mowlem & Co.	£4,514 0 0	£42 0 0
S. & W. Pattinson	4,021 0 0	43 0 0
Chas. Cox	3,920 0 0	60 0 0
J. Tyerman	3,860 0 0	87 0 0
Wm. Downs	3,829 0 0	48 0 0
Holloway Bros.	3,697 0 0*	58 0 0*
E. Lawrance & Sons†	3,669 0 0	58 0 0
B. E. Nightingale†	3,529 0 0	58 0 0

* Recommended by the Works Committee for acceptance.
† Items for reconstruction of drainage not included in these tenders.

LONDON.—For providing a new heating apparatus on the low pressure hot-water system for the new portion of St. Andrew's-street School, Wandsworth-road, which is now in course of erection, and also for providing a new boiler, for the School Board for London. Mr. T. J. Bailey, Architect :—

J. Grundy	£814 0 0
J. & F. May	565 0 0
Wontner, Smith, Gray, & Co.	559 0 0
W. G. Cannon	530 0 0
T. Potter & Sons	530 0 0
Purcell & Nobbs	486 10 0
Comyn, Ching, & Co.	426 10 0
Green & Son, Limited*	380 0 0

*Recommended by the Works Committee for acceptance.

LONDON.—For alterations at the "Hand and Crown," 93, New Oxford-street, for Mrs. Ward. Mr. G. P. Niblett, architect and surveyor, Hackney, E. :—

Burman & Sons	£1,615 0 0
Spencer & Co.	1,590 0 0
Todd	1,160 0 0
J. Conway (accepted)	1,050 0 0

LONDON.—For the pulling down of 33, Blyth-terrace, with stabling in the rear thereof, and the erection of two houses thereon, under the direction of Mr. Parnacott, surveyor, 156, Westminster-bridge-road, S.E. :—

Lapthorne & Co.	£458 0 0
Reed, Beckenham	440 10 0
Peacock Bros.	416 0 0

LONDON.—For erecting a single cookery centre on the Burghley-road site, Highgate-road, and for providing an entrance to the cookery centre, for the School Board for London. Mr. T. J. Bailey, Architect :—

		If brickwork in cement, add
J. Mowlem & Co.	£805 0 0	£12 0 0
Killby & Gayford	774 0 0	14 0 0
Dove Brothers	763 0 0	13 0 0
W. Goodman	754 0 0	19 0 0
E. Lawrance & Sons	749 0 0	15 0 0
B. E. Nightingale	734 0 0	16 0 0
Staines & Son	714 0 0	17 0 0
S. & W. Pattinson	711 0 0*	16 0 0*
G. S. S. Williams & Son†	661 0 0	18 0 0

*Recommended by the Works Committee for acceptance.
† Price for extra depth of foundation not included in this tender.

LONDON.—For repairing Beanfoy's schools, Lambeth, S.E. Messrs. Waring & Nicholson, architects, 55, Parliament-street, Westminster, S.W. :—

W. B. Briant	£895 0 0
Higgs & Hill	814 0 0
Thos. Lott	789 0 0
B. E. Nightingale	758 0 0
J. Marsland	745 0 0
Wm. Smith	696 0 0
J. F. Ford	681 0 0
Hy. Hall	597 0 0

LONDON.—For road-making and paving works at Hammersmith, for the Hammersmith Vestry. Mr. H. Mair, Surveyor, Vestry Hall, Broadway, Hammersmith, W. :—

Craven Cottages.

Tomes & Wimpey	£791 0 0
E. Rogers & Co.	772 0 0
Nowell & Robson, Warwick-road, Kensington*	754 0 0

Hofland-road.

E. Rogers & Co.	310 0 0
Tomes & Wimpey	301 0 0
Nowell & Robson, Kensington*	287 0 0

Hughenden-road.

Nowell & Robson	324 0 0
E. Rogers & Co.	320 0 0
Tomes & Wimpey, Hammersmith*	309 0 0

Berestede-road.

E. Rogers & Co.	305 0 0
Nowell & Robson	304 0 0
Tomes & Wimpey, Hammersmith*	290 0 0

Hebron-road.

Tomes & Wimpey	355 0 0
E. Rogers & Co.	348 0 0
Nowell & Robson, Kensington*	330 0 0

Bath Mews.

John Williams, Hammersmith*	490 0 0

* Accepted.

LONDON.—For the formation of new road and sewer at Fulham Palace-road, Fulham, for Mr. H. George Smallman. Messrs. F. & W. Stocker, surveyors, 90 and 91, Queen-street, Cheapside, E.C. :—

A. Boon	£797 0 0
Kellett (too late)	755 0 0
Nowell & Robson	749 0 0
A. T. Catley	648 0 0
Serf, Haile, & Co.	598 0 0
Killingback	585 0 0
J. Bowles	564 14 6
Warner & Co.	560 0 0
Mears	549 0 0
Tomes & Wimpey	492 0 0
W. Neave & Son, Paddington*	467 0 0
S. Saunders	464 0 0
Rowland Bros.	427 0 0
W. H. Wheeler	367 0 0

*Accepted.

LONDON.—For laying 5,000 yards yellow deal wood paving in the Balham-road, Tooting, for the Wandsworth Board of Works:—

	Per yard super. s. d.
Acme Wood Flooring Co.	10 6
Brunswick Rock Asphalte Paving Co.	9 8
Turner & Son	9 6
Improved Wood Pavement Co., Queen Victoria-street (accepted)	8 9

LONDON.—For alterations at the "Crown and Sceptre," Brompton-road, S.W., for Mrs. Hollyman. Mr. G. E. Niblett, architect and surveyor, Hackney:—

W. and L. Ransom	£1,200 0 0
Spencer & Co.	1,020 0 0
Todd	1,017 0 0
Burman & Sons	1,007 0 0

LONDON.—For alterations, &c., to the "Jolly Miller" tavern, Millbank-street, Westminster, S.W., for Mr. Edward Dickman. Mr. H. J. Newton, architect, 49, Victoria-street, Westminster, S.W.:—

J. Tyerman, Walworth	£343 0 0
H. Burman & Sons, Kennington-park*	333 0 0

* Accepted.

NEWCASTLE-ON-TYNE.—For extending premises at Pudding Chare, Newcastle-on-Tyne, for Mr. John C. Maudlen. Messrs. Plummer & Burrell, architects, Newcastle-on-Tyne:—

J. & W. Lawry, Newcastle-on-Tyne	£312 0 0
J. W. Wakinshaw, Gateshead	248 0 5
James Horn, Heaton, Newcastle	247 19 11
Anderson & Slater, Newcastle	232 1 4
Middlemiss Bros., Newcastle	225 10 0
Thos. Weatheritt, Newcastle*	216 0 0

* Accepted subject to certain variations.

PAIGNTON (South Devon).—For the erection of new business premises, 13, Victoria-street, for Mr. Felix Haarer. Mr. Frank E. Haarer, architect, 18, Consort-terrace, St. John's-road, Leeds. Quantities by architect:—

E. Westlake, Paignton	£795 0 0
W. A. Goss, Torquay	740 0 0
Rabbich & Brown, Paignton*	732 0 0

* Accepted.

PRESTON.—For building warehouse, with galvanised-iron roof, at Preston, for the Steamship Company. Messrs. Garlick & Sykes, engineers, 33, Winckley-square, Preston:—

Wm. Clegg, Accrington	£1,269 3 2
John Walmsley, Preston	1,098 0 0
Allsup & Sons, Preston	1,060 0 0
Isaac Dixon & Co., Liverpool	1,035 0 0
Wm. Hothersall, Preston	990 0 0
T. Livesey, Ashton-on-Ribble	986 17 9
John Christian, Preston (accepted)	951 0 0

STOWMARKET.—For erecting new billiard room at "The Hill," Stowmarket, for Mr. A. H. Harrison. Mr. H. A. Alexander, architect, 72, Cannon-street, E.C.:—

Gooding, Stowmarket (accepted)	£427 12 0

TRURO.—Accepted for the erection and completion of a new shop and warehouse in King-street, Truro, for Mr. Edward Burton. Mr. Silvanus Trevail, architect, Truro:—

M. & J. Clemens (masonry) / W. J. Tippet (carpentry)	£1,450 0 0

[All of Truro.]

WALTHAMSTOW.—For erecting and completing a new school for boys, girls, and infants, on the site in Markhouse-road, Walthamstow, for the Walthamstow School Board. Mr. W. A. Longmore, architect, 7, Great Alie-street, E. Quantities by Messrs. J. & E. Goodchild, Finsbury-pavement, E.C.:—

Wallis	£13,934 0 0
Watling	13,386 0 0
Little	12,979 0 0
Good	11,875 0 0
Ward & Co.	11,449 0 0
Reed	11,370 0 0
Dupont & Co.	11,139 0 0
Reed, Blight, & Co., Ltd.	10,962 0 0
Scott	10,850 0 0
White	10,556 0 0
R. E. Evans, Peckham, S.E.*	10,396 0 0
Tagg (withdrawn)	9,986 0 0

* Accepted.

TIPTON.—For constructing a brick gasholder tank at Tipton, for the Tipton Local Board. Mr. Vincent Hughes, Engineer:—

Holmes & King, Liverpool	£3,000 0 0
E. Tempest, Leicester	2,975 0 0
Geo. Law, Kidderminster	2,957 0 0
H. Hughes & Son, Lower Gornal, near Dudley	2,490 0 0
Thos. Vale, Stourport	2,325 0 0
James Evans, Abbotsford, Loudon*	2,187 0 0

* Accepted.

WALTHAMSTOW.—For building new shop and premises, Walthamstow, for Mr. W. Horley. Mr. W. A. Longmore, architect, 7, Great Alie-street, Whitechapel, E.:—

S. J. Scott	£1,087 0 0
E. Fuller	951 0 0
J. A. Reed	929 0 0
Watling (accepted)	785 0 0
Baker	769 0 0

[All of Walthamstow.]

Three Detached Houses at Westcombe Park.—Messrs. Balaam Bros. write to say with reference to the list of tenders for this job, published in our last, that the amount of their tender was 4,886*l.* not 4,566*l.*

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F. J. B. (we cannot publish tenders unless the amounts be given).—G. S. (ditto).—L. E. P.—A. J. H.—E. H. (thanks).—"Anti-Sweater" (we had previously received the information).—A. G.—S. E. (too late).

All statements of facts, lists of tenders, &c. must be accompanied by the name and address of the sender, not necessarily for publication.

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